

**FIVE-YEAR REVIEW REPORT FOR
SKINNER LANDFILL SUPERFUND SITE
BUTLER COUNTY, OHIO**

US EPA RECORDS CENTER REGION 5




461583



Prepared by

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Table of Contents

List of Acronyms	iv
Executive Summary	v
Five-Year Review Summary Form	vi
I. Introduction.....	1
II. Progress Since Last Review	2
Remedy Implementation Activities	3
System Operation/Operation and Maintenance Activities.....	4
III. Five-Year Review Process	4
Administrative Components	4
Community Notification and Involvement	5
Document Review.....	5
Data Review.....	5
Site Inspection.....	6
Interviews.....	7
IV. Technical Assessment.....	7
Question A: Is the remedy functioning as intended by the decision documents?.....	7
Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid?.....	8
Question C: Has any other information come to light that could call into question the protectiveness of the remedy?.....	8
Technical Assessment Summary.....	8
V. Issues/Recommendations and Follow-up Actions	8
VI. Protectiveness Statements.....	9
VII. Next Review	9

Tables

Table 1 – Protectiveness Determinations/Statements from the 2009 FYR.....	2
Table 2 – Status of Recommendations from the 2009 FYR	2
Table 3 – Summary of Planned and/or Implemented ICs.....	3

Appendices

Appendix A Existing Site Information

Appendix B Attachments

Attachment 1	Site Map
Attachment 2	Site-specific Trigger Levels
Attachment 3	Environmental Covenant
Attachment 4	Newspaper Ad
Attachment 5	Groundwater and Surface Water Test Results Summary (2010-2013)
Attachment 6	Wastewater Discharge Permit
Attachment 7	Groundwater Elevation Data (2013) and Groundwater-Waste Monitoring Summary (2007-2012)
Attachment 8	Site Inspection Checklist

LIST OF ACRONYMS

BCDES	Butler County Department of Environmental Services
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
CQA	Construction Quality Assurance
DNAPL	Dense Non-Aqueous Phase Liquid
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FML	Flexible Geomembrane Liner
FS	Feasibility Study
FYR	Five-Year Review
GCL	Geosynthetic Clay Liner
GIS	Groundwater Interception System
GWMP	Groundwater-Waste Monitoring Plan
ICs	Institutional Controls
LGP	Low Ground Pressure
LTPP	Long-Term Performance Plan
MSL	mean sea level
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
Ohio EPA	Ohio Environmental Protection Agency
OU	Operable Unit
PCBs	Polychlorinated Biphenyls
POTW	Publicly Owned Treatment Works
PRPs	Potentially Responsible Parties
RAOs	Remedial Action Objectives
RD	Remedial Design
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SVE	Soil Vapor Extraction
SVOCs	Semi-Volatile Organic Compounds
UAO	Unilateral Administrative Order
UECA	Uniform Environmental Covenants Act
UU/UE	unrestricted use and unlimited exposure
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

This is the fourth five-year review (FYR) for the Skinner Landfill Superfund site located in West Chester, Butler County, Ohio. The purpose of this FYR is to review information to determine if the remedy is and will continue to be protective of human health and the environment. The triggering action for this statutory FYR was the signing of the previous FYR on 3/17/2009.

The site is located approximately 15 miles north of Cincinnati, Ohio, near West Chester, Butler County, Ohio, in Township 3, Section 22, Range 2, and is comprised of approximately 78 acres of hilly terrain. The site was used in the past for the mining of sand and gravel, and was operated for the landfilling of a wide variety of materials from approximately 1934 through 1990. Materials deposited at the site include demolition debris, household refuse, and a variety of chemical wastes. The site is bordered on the east by a Norfolk Southern Railway Company right-of-way, on the south by the East Fork of Mill Creek, on the north by wooded and agricultural land, and on the west by a gravel driveway and Cincinnati-Dayton Road (see site map in Attachment 1).

The site achieved construction completion on September 27, 2001. The remedy was constructed in accordance with the requirements of the September 1992 and June 1993 Records of Decision (RODs) and the September 2012 Explanation of Significant Differences (ESD). The September 1992 ROD for the first operable unit (OU) at the site was an interim action to protect human health and the environment from any immediate potential risks. The June 1993 ROD, as modified by the September 2012 ESD, selected the final site remedy for the second and final OU at the site. The interim remedy for OU1 was ultimately incorporated into and finalized as part of OU2. The landfill cap has been constructed over all the wastes, a groundwater interception system (GIS) is operating, and a public water supply was provided to nearby residents.

The assessment of this FYR found that the remedy at the site is protective of human health and the environment. There are no current exposure pathways and the remedy appears to be functioning as designed. The landfill cap, the groundwater interception system, and the connection of nearby residents to the public water supply eliminate potential exposure to the source of contamination and have achieved the remedial action objectives (RAOs) to minimize the migration of contaminants to groundwater and surface water and to prevent direct contact with, or ingestion of, contaminants in soils and sediments. Institutional controls (ICs), in the form of an environmental covenant, have been implemented to protect the remedy components, and to protect against improper use of site land and groundwater resources. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining, monitoring, and enforcing effective ICs as well as maintaining the site remedy components.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Skinner Landfill Superfund Site		
EPA ID: OHD063963714		
Region: 5	State: OH	City/County: West Chester, Butler County
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	Has the site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name (Federal or State Project Manager): Scott Hansen		
Author affiliation: Remedial Project Manager		
Review period: 8/19/2013 - 3/17/2014		
Date of site inspection: 1/24/2014		
Type of review: Statutory		
Review number: 4		
Triggering action date: 3/17/2009		
Due date (five years after triggering action date): 3/17/2014		

Issues and Recommendations Identified in the Five-Year Review: None
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Five-Year Review Summary Form (continued)

Protectiveness Statement(s)

Operable Unit:
OU1

Protectiveness Determination:
Protective

Protectiveness Statement:

The interim remedy at OU1 is protective of human health and the environment. There are no current exposure pathways and the remedy appears to be functioning as designed. The connection of nearby residents to the public water supply eliminates potential exposure to the source of contamination. In addition, site fencing remains in place and groundwater monitoring has been conducted at the required frequency. This interim remedy was ultimately incorporated into and finalized as part of OU2.

Protectiveness Statement(s)

Operable Unit:
OU2

Protectiveness Determination:
Protective

Protectiveness Statement:

The assessment of this FYR found that the remedy at the site is protective of human health and the environment. There are no current exposure pathways and the remedy appears to be functioning as designed. The landfill cap, the groundwater interception system, and the connection of nearby residents to the public water supply eliminate potential exposure to the source of contamination and have achieved the remedial action objectives to minimize the migration of contaminants to groundwater and surface water and to prevent direct contact with, or ingestion of, contaminants in soils and sediments. ICs, in the form of an environmental covenant, have been implemented to protect the remedy components, and to protect against improper use of site land and groundwater resources. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining, monitoring, and enforcing effective ICs as well as maintaining the site remedy components.

Sitewide Protectiveness Statement

Protectiveness Determination:
Protective

Protectiveness Statement:

The assessment of this FYR found that the remedy at the site is protective of human health and the environment. There are no current exposure pathways and the remedy appears to be functioning as designed. The landfill cap, the groundwater interception system, and the connection of nearby residents to the public water supply eliminate potential exposure to the source of contamination and have achieved the remedial action objectives to minimize the migration of contaminants to groundwater and surface water and to prevent direct contact with, or ingestion of, contaminants in soils and sediments. ICs, in the form of an environmental covenant, have been implemented to protect the remedy components, and to protect against improper use of site land and groundwater resources. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining, monitoring, and enforcing effective ICs as well as maintaining the site remedy components.

I. INTRODUCTION

The purpose of a FYR is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The United States Environmental Protection Agency (EPA) prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121 and the National Contingency Plan (NCP). CERCLA Section 121 states:

“If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.”

EPA interpreted this requirement further in the NCP; 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii) states:

“If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such actions no less often than every five years after the initiation of the selected remedial action.”

EPA conducted a FYR on the remedy implemented at the Skinner Landfill Superfund site in West Chester, Butler County, Ohio. EPA is the lead agency for developing and implementing the remedy for the site. The Ohio Environmental Protection Agency (Ohio EPA), as the support agency representing the State of Ohio, has reviewed all supporting documentation and provided input to EPA during the FYR process.

This is the fourth FYR for the site. The triggering action for this statutory review is the completion date of the previous FYR on March 17, 2009. The FYR is required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure (UU/UE). Detailed background information about the site is included in Appendix A.

II. PROGRESS SINCE LAST REVIEW

Table 1: Protectiveness Determinations/Statements from the 2009 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1 and 2	Protective	The assessment of this FYR found that the remedy at the site is protective of human health and the environment. There are no current exposure pathways and the remedy appears to be functioning as designed. The landfill cap, the GIS and the connection of nearby residents to the public water supply eliminate the source of contamination and have achieved the remedial objectives to minimize the migration of contaminants to groundwater and surface water and to prevent direct contact with, or ingestion of, contaminants in soils and sediments. Institutional controls, in the form of an environmental covenant under the Ohio version of the Uniform Environmental Covenants Act, have been implemented to protect the remedy components, and to protect against improper use of site land and groundwater resources. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining, monitoring and enforcing effective ICs as well as maintaining the site remedy components.

Table 2: Status of Recommendations from the 2009 FYR

Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Party	Original Milestone Date	Current Status	Completion Date (if applicable)
Security Measures	Repair fence where needed and control illegal dumping	PRP	EPA/State	As needed	Completed	8/30/2009
Upgradient groundwater control	Continued quarterly measurements of groundwater elevations	PRP	EPA	9/30/2009	Completed	9/21/2012
Institutional Controls: Location of some existing easements and their relationship to remedy components is unknown	Update title commitment and site survey map; check all easements of record to make sure there is no interference with site remedy components.	PRP	EPA	9/30/2009	Completed	7/23/2009
Institutional Controls: Ensure long-term stewardship	Review long-term stewardship procedures and update if necessary.	PRP	EPA	3/31/2010	Completed	7/23/2009

Remedy Implementation Activities

A description of the remedy implementation activities that occurred prior to the 2009 FYR is included in Appendix A.

Since the last FYR, the potentially responsible parties (PRPs) for the site have conducted routine operation and maintenance (O&M) and groundwater monitoring activities at the site. On September 21, 2012, EPA issued an Explanation of Significant Differences for the site that eliminated the need for the upgradient groundwater control portion of remedy, a provision that was included in the June 1993 ROD for OU2 and the subsequent Remedial Action Consent Decree. The ESD concluded that groundwater in contact with waste materials beneath the landfill cap has not resulted in contamination of the groundwater above the site-specific trigger levels and does not affect the protectiveness of the selected remedy, and therefore there is no need for upgradient groundwater control at the site. Ohio EPA concurred with the ESD. The site-specific trigger levels are included in Attachment 2.

Institutional Controls

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for exposure to contamination and that protect the integrity of the remedy. ICs are required to assure long-term protectiveness for any areas which do not allow for unlimited use or unrestricted exposure. ICs are also required to maintain the integrity of the remedy.

The ICs currently in place for the site are listed in Table 3. A map showing the area to which the ICs apply is included as an attachment to the environmental covenant in Attachment 3.

Table 3: Summary of Planned and/or Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed?	ICs Called for in the Decision Documents?	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Remedy components such as wells and GIS	Yes	Yes	See Attachment 3	Prohibits use of land underlying the site, and assures the integrity of remedy components	Environmental Covenant, recorded at Butler County, Feb. 2006
Landfill Cap	Yes	Yes	See Attachment 3	Prohibits use of land underlying the site, and assures the integrity of the landfill cap	Environmental Covenant (Feb. 2006)
Groundwater – area that exceeds cleanup levels	Yes	Yes	See Attachment 3	Prohibits use of Groundwater	Environmental Covenant (Feb. 2006)

Current compliance: The PRPs updated the title commitment and survey for the ICs in July 2009. Based on site inspections and interviews, EPA finds there is no evidence of a cap breach and the existing use of the site is consistent with the objectives of the land and groundwater use restrictions noted in Table 3.

Long-Term Stewardship: Long-term protectiveness at the site requires compliance with use restrictions to assure the remedy continues to function as intended. Regular inspections are conducted at the site, as required by the O&M plan, and constitute long-term stewardship at the site.

System Operation/Operation and Maintenance Activities

O&M activities are currently performed by Brown and Caldwell, a contractor for the PRP group. In addition, Butler County has personnel performing activities associated with O&M, such as monthly sampling of the discharge to the publicly owned treatment works (POTW). The O&M activities conducted by Brown and Caldwell include maintenance of the landfill cap, the GIS, and any other remedy components, whenever it is needed. Landfill cap maintenance involves the inspection and repair of any soil burrowing or erosion locations, and mowing of the landfill surface as needed. Groundwater and surface water sampling events are currently conducted on a semi-annual basis. Inspections of all the remedial components at the site are also conducted on a semi-annual basis. More information regarding O&M activities can be found in Appendix A.

In 2008, the Skinner PRP group petitioned for a reduction in monitoring based on the lack of confirmed exceedances of the site-specific groundwater and surface water trigger levels and general lack of detections in site groundwater and surface water above the quantitation limits for monitoring events. EPA approved the PRPs' petition on November 24, 2009, including the following reductions in the monitoring program:

- Monitoring frequency reduced from quarterly to semi-annually;
- Sampling for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides and polychlorinated biphenyls (PCBs) reduced to annual during the spring event, while sampling for inorganics continues semi-annually;
- Monitoring well sample locations reduced from 11 to 7;
- Surface water sample locations reduced from 6 to 4;
- Data package deliverable reduced from Level II to Level III; and
- A contingency to further reduce the monitoring frequency in the future from semi-annual to annual if data trends remain consistent, as approved by EPA.

The revised monitoring program reductions described above went into effect in 2010.

III. FIVE-YEAR REVIEW PROCESS

Administrative Components

EPA notified Ohio EPA of the initiation of the five-year review on August 19, 2013. The FYR was led by Scott Hansen, EPA Remedial Project Manager (RPM) for the site, with support from Sue Pastor, the EPA Community Involvement Coordinator (CIC). Chuck Mellon of Ohio EPA assisted in the review as the representative for the support agency.

The review, which began on August 19, 2013, consisted of the following components:

- Community Notification and Involvement;
- Document Review;
- Data Review;
- Site Inspection;
- Interviews; and
- Five-Year Review Report Development and Review.

Community Notification and Involvement

Activities to involve the community in the five-year review process were initiated with a meeting in September 2013 between the RPM and CIC for the site. EPA published a notice in the local newspaper, the "Today's Pulse Butler County," on November 10, 2013, stating that there was a five-year review and inviting the public to submit any comments to EPA. (See Attachment 4 for the newspaper ad). The results of the review and the final FYR report will be made available at the site information repository located at the Middletown Public Library System, West Chester Branch, 7900 Cox Road, West Chester, Ohio.

Document Review

The RPM reviewed the following Skinner Landfill site documents in preparing this five-year review report:

- Third Five-Year Review Report, March 2009
- Remedial Action Consent Decree, April 2001
- Record of Decision, September 1992
- Record of Decision, June 1993
- Skinner Landfill Quarterly and Semi-Annual Monitoring Reports, 2010-2013

Data Review

Groundwater monitoring results

Groundwater monitoring has been occurring at this site since August 2003. EPA reviewed the Semi-Annual Groundwater Monitoring reports, March 2010 – September 2013, as part of this FYR. These reports include the most recent analytical results from the site groundwater monitoring wells, along with groundwater elevation data.

The PRP conducted quarterly sampling of eleven monitoring wells from 2003 to 2009. As noted above, in 2010, the number of wells was reduced to seven and the monitoring frequency was reduced from quarterly to semi-annual sampling due to the lack of confirmed exceedances of the groundwater trigger levels and general lack of detections in site groundwater above the quantitation limits for monitoring events.

Samples are analyzed for VOCs, SVOCs, pesticides, PCBs and metals. Several metals (arsenic, iron, lead, chromium, cyanide) were detected above trigger levels at various groundwater monitoring wells during this review period; however, the analytical results before and after the

detections were either below the trigger levels or non-detect. Attachment 5 includes the groundwater test results summaries for 2010-2013. Based on the quarterly baseline sample results (October 2001 – August 2003), the monitoring results from 2003 to 2013 indicate that the target compounds in groundwater have either declined or remained stable.

The PRP group has an industrial discharge permit with Butler County Department of Environmental Services (BCDES) to discharge groundwater to the Butler County sewer system. Sampling of the effluent from the GIS is part of the conditions required by the BCDES discharge permit (see Attachment 6). The discharge continues to be in compliance with the permit.

Groundwater-waste monitoring

Groundwater-waste monitoring evaluates whether the waste material underneath the landfill cap is in contact with site groundwater and whether the landfill cap is affecting the groundwater elevations beneath the landfill. Quarterly measurements were taken of groundwater elevation from four piezometers, all located within the landfill cap, through 2012. Attachment 7 includes groundwater elevation data from the second half of 2013 and the groundwater-waste monitoring summary for the period from 2007 through 2012. Because EPA issued an ESD in 2012 which concluded that an upgradient slurry wall is not required, the PRPs are no longer required to provide a groundwater-waste summary to EPA, and this monitoring has not been conducted since December 2012.

Surface water monitoring results

Surface water monitoring consists of sampling from three monitoring points along the East Fork of Mill Creek and three run-off outfall locations. As noted earlier, in 2010, the number of monitoring points was reduced to four and the monitoring frequency was reduced from quarterly to semi-annual sampling due to the lack of confirmed exceedances of the trigger levels and general lack of detections in surface water above the quantitation limits for monitoring events. The data for this review period show that one metal (zinc) was detected above trigger levels at one surface water sample location, SWD-1; however, the analytical results before and after the detection were either below the trigger levels or non-detect. Attachment 5 includes the surface water test results summaries. Based on the quarterly baseline sample results (October 2001 – August 2003), the monitoring results from 2003 to 2013 indicate that the target compounds in surface water have either declined or remained stable.

Site Inspection

The site inspection for the FYR was conducted on January 24, 2014. In attendance were Scott Hansen, EPA RPM, Chuck Mellon of Ohio EPA, Michael Watkins of Brown and Caldwell (PRP contractor), and three members of the Skinner PRP group. The purpose of the inspection was to assess the protectiveness of the remedy and the current conditions at the site, including the presence of fencing to restrict access, the integrity of the landfill cap, and the general conditions of the groundwater interception system and monitoring wells.

All site inspection attendees drove around the site. Site access is available through locked gates. A fence encloses the landfill and other components of the site remedy (GIS, monitoring wells). The Site Inspection Checklist is included as Attachment 8. The landfill cap over most of the site was covered with about 4 to 6 inches of snow at the time of the inspection, so it was difficult to determine the condition of the cap on that particular day. However, the cap is inspected on a

semi-annual basis and the PRPs' second 2013 semi-annual report states that the cap was in good condition.

Interviews

During the FYR process, the EPA RPM conducted interviews with parties impacted by the site, involved in site activities, or aware of the site, including the Skinner PRP group, the PRP contractor, and Ohio EPA. The purpose of the interviews was to document any perceived problems or successes with the remedy that has been implemented to date. The interviews were conducted on January 24, 2014. The following people were interviewed:

- Michael Watkins, Brown and Caldwell, PRP contractor
- Chuck Mellon, Ohio EPA project manager
- Three members of the Skinner PRP group

Everyone interviewed stated that there are no serious issues related to the site. They also stated that community interest about the site remains low. They confirmed that no changes in land use are planned for the site, and that ICs remain in place.

IV. TECHNICAL ASSESSMENT

Question A: Is the remedy functioning as intended by the decision documents? Yes.

Remedial Action Performance: The remedies selected in the 1992 ROD for the first operable unit interim action and the 1993 final ROD, as modified by the 2012 ESD, have been implemented and remain functional, operational and effective. As long as the site hazardous waste cap and GIS continue to be maintained and monitored, and the security perimeter fence is maintained, the source area remedies will ensure that the site remains protective.

System Operations/O&M: O&M operating procedures, as implemented, maintain the effectiveness of the remedy. Current annual O&M costs are not available since the PRPs conduct the O&M.

Opportunities for Optimization: In late 2009, EPA approved the PRPs' petition to reduce monitoring at the site.

Early Indicators of Potential Issues: No early indicators of potential remedy failure were noted during the review. Based on the quarterly baseline sample results (October 2001 – August 2003), the monitoring results from 2003 to 2013 indicate that the target compounds in groundwater and surface water have either declined or remained stable. Maintenance activities have been consistent with expectations.

Implementation of Institutional Controls and Other Measures: Access controls (e.g., fencing and warning signs) are in place and effective. The 1993 ROD remedy included the implementation of proprietary controls and other ICs to prevent future development of the site, assure the integrity of the remedial action, and prohibit the use of site groundwater as a drinking water source. These controls were required to protect the integrity of the landfill cap, the GIS, and all other components of the remedial action. On February 14, 2006, an environmental covenant under Ohio's Uniform Environmental

Covenants Act (UECA) was recorded in the land records for the site. The environmental covenant meets the ROD requirements regarding ICs.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid? Yes.

Changes in Standards and TBCs: Requirements contained in environmental laws and regulations, which were outlined in the 1993 ROD and the 2009 Five-Year Review Report, are still valid at the site.

Changes in Exposure Pathways: No changes in site conditions that would affect human or environmental exposure to contaminants were identified as part of the FYR. There are no current or known planned changes in land use at the site.

Changes in Toxicity and Other Contaminant Characteristics: No changes in contaminant characteristics were identified as part of the FYR.

Changes in Risk Assessment Methodologies: Changes in risk assessment methodologies since the previous FYR are not significant and do not call into question the protectiveness of the remedy.

Expected Progress Towards Meeting RAOs: The remedy is progressing as expected toward meeting RAOs.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy? No.

No other events have affected the protectiveness of the remedy and there is no other information that calls into question the short-term and/or long-term protectiveness of the remedy.

Technical Assessment Summary

According to the data reviewed and the site inspection, the remedy, including the recorded site environmental covenant, is functioning as intended by the 1992 and 1993 RODs and 2012 ESD. There have been no changes in the physical conditions of the site, cleanup standards, contaminant toxicity, or exposure pathways that would affect the protectiveness of the remedy. No additional information has been identified that would call into question the protectiveness of the remedy.

V. ISSUES/RECOMMENDATIONS AND FOLLOW-UP ACTIONS

No issues or recommendations were identified during this five year review.

VI. PROTECTIVENESS STATEMENTS

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU1	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The interim remedy at OU1 is protective of human health and the environment. There are no current exposure pathways and the remedy appears to be functioning as designed. The connection of nearby residents to the public water supply eliminates potential exposure to the source of contamination. In addition, site fencing remains in place and groundwater monitoring has been conducted at the required frequency. This interim remedy was ultimately incorporated into and finalized as part of OU2.	
Protectiveness Statement(s)	
<i>Operable Unit:</i> OU2	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The assessment of this FYR found that the remedy at the site is protective of human health and the environment. There are no current exposure pathways and the remedy appears to be functioning as designed. The landfill cap, the groundwater interception system, and the connection of nearby residents to the public water supply eliminate potential exposure to the source of contamination and have achieved the remedial action objectives to minimize the migration of contaminants to groundwater and surface water and to prevent direct contact with, or ingestion of, contaminants in soils and sediments. ICs, in the form of an environmental covenant, have been implemented to protect the remedy components, and to protect against improper use of site land and groundwater resources. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining, monitoring, and enforcing effective ICs as well as maintaining the site remedy components.	

Sitewide Protectiveness Statement
<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The assessment of this FYR found that the remedy at the site is protective of human health and the environment. There are no current exposure pathways and the remedy appears to be functioning as designed. The landfill cap, the groundwater interception system, and the connection of nearby residents to the public water supply eliminate potential exposure to the source of contamination and have achieved the remedial action objectives to minimize the migration of contaminants to groundwater and surface water and to prevent direct contact with, or ingestion of, contaminants in soils and sediments. ICs, in the form of an environmental covenant, have been implemented to protect the remedy components, and to protect against improper use of site land and groundwater resources. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining, monitoring, and enforcing effective ICs as well as maintaining the site remedy components.

VII. NEXT REVIEW

The next five-year review report for the Skinner Landfill Superfund site is required five years from the completion date of this review.

APPENDIX A

APPENDIX A – EXISTING SITE INFORMATION

A. SITE CHRONOLOGY

Table A-1: Site Chronology

Event	Date
Initial discovery of problem or contamination	1976
Final NPL listing	09/1983
Interim ROD	09/30/1992
Unilateral Administrative Order	12/09/1992
Remedial Investigation/Feasibility Study complete	06/1993
ROD	06/04/1993
Remedial design start	03/1994
Remedial design complete	06/1996
First five-year review	03/17/1999
Entry of Remedial Action Consent Decree	04/02/2001
On-site remedial action construction start	04/02/2001
Preliminary Closeout Report/Construction Completion	09/27/2001
Second five-year review	03/17/2004
Environmental Covenant recorded	2/14/2006
Installed new piezometers	12/2006 – 1/2007
Site-wide Ready for Anticipated Use achieved	1/31/2008
Removal action to address electronic waste	06/2008
Third five-year review	03/17/2009
ESD	09/21/2012

B. BACKGROUND

Physical Characteristics

The site is located approximately 15 miles north of Cincinnati, Ohio, near West Chester, Butler County, Ohio, in Township 3, Section 22, Range 2. The site is bordered on the east by a Norfolk Southern Railway Company right-of-way, on the south by the East Fork of Mill Creek, on the north by wooded and agricultural land, and on the west by a gravel driveway and Cincinnati-Dayton Road.

The approximately 10.5-acre landfill site is fenced on all sides with locked access gates on the south and west sides of the site. The only structures on site are the metal electrical box located near the south entrance gate and the gas vents. A gravel access road is located inside the fence on the south and west sides of the site.

The site is located in a highly dissected area that slopes from a till-mantled-bedrock upland to a broad, flat-bottomed valley that is occupied by the main branch of Mill Creek. Elevations on the site range from a high of nearly 800 feet above mean sea level (MSL) in the northeast, to a low of 645 feet above MSL near the confluence of Skinner Creek and the East Fork of Mill Creek. Both Skinner Creek and the East Fork of Mill Creek are small, intermittent shallow streams. Both of these streams flow to the southwest from the site toward Mill Creek, which in turn flows into the Ohio River.

In general, the site is underlain by relatively thin glacial drift over inter-bedded shale and limestone of Ordovician age. The composition of the glacial drift ranges from intermixed silt, sand and gravel, to silty sandy clays with a thickness ranging from zero to over forty feet. The sand and gravel deposits comprise the hills and ridges and are encountered near the surface of the central portion of the site. The silts and clays usually occur as lenses in the sands and gravel or directly overlie bedrock.

Land and Resource Use

The property was originally developed as a sand and gravel mining operation and was subsequently used as a landfill from 1934 to 1990.

History of Contamination

In 1976, in response to a fire at the site and reports of observations of a black, oily liquid in a waste lagoon on the site, the Ohio EPA began a site investigation. Before Ohio EPA could complete the investigation, the site owner/operator covered the waste lagoon with a layer of demolition debris, thereby hindering the investigation. Albert Skinner, the site owner at the time, dissuaded the Ohio EPA from accessing the lagoon area by claiming that nerve gas, mustard gas, incendiary bombs, phosphorus, flame throwers, cyanide ash, and other explosive devices were buried at the landfill. This prompted Ohio EPA to request the assistance of the U.S. Army. Albert Skinner, in the presence of Ohio EPA attorneys and the U.S. Army investigators, subsequently retracted his claims of the presence of ordnance. The U.S. Army and Ohio EPA then dug several trenches into the buried waste lagoon, and found black and orange liquids and a number of barrels of waste. Subsequently, the U.S. Army performed records searches, which indicated no evidence of munitions of any sort having been disposed at the site.

Based on the initial studies, materials deposited at the site include demolition debris, household refuse, and a wide variety of chemical wastes. The waste disposal areas include a now-buried former waste lagoon near the center of the site and a landfill. The buried lagoon was used for the disposal of paint wastes, ink wastes, creosote, pesticides, and other chemicals. The landfill area, located north and northeast of the buried lagoon, received predominantly demolition debris.

Initial Response

In 1982, EPA conducted a limited site investigation for the purpose of scoring the site for inclusion on the National Priorities List (NPL). The investigation showed that groundwater southeast of the buried waste lagoon was contaminated with volatile organic compounds (VOCs). The site was proposed for the NPL in December 1982 and finalized on the NPL in September 1983.

EPA completed a search for potentially responsible parties (PRPs) in April 1983. The results of that search were later supplemented by information requests under CERCLA Section 104(e) and by administrative depositions.

In 1986, EPA began a Phase I Remedial Investigation (RI) with the sampling of groundwater, surface water, and soils. A biological survey of the East Fork of Mill Creek and Skinner Creek was also performed. In 1989, EPA began Phase II of the RI, to further investigate the site groundwater, surface water, soils, and sediments. Overall, more than 400 samples from the site were analyzed. In August

1990, through a legal proceeding, the Ohio EPA closed the site to all further landfilling activities. EPA completed Phase II of the RI in May 1991 and both a Baseline Risk Assessment and Feasibility Study (FS) in 1992.

EPA's investigation found that the former dump area was used for the disposal of a variety of wastes, including demolition debris, household refuse, assorted scrap, and chemical wastes. The total volume of wastes within the former dump was estimated at 120,000 cubic yards. EPA's water samples collected during the RI indicated that the most concentrated groundwater contamination at the site was in the area beneath the former dump. Site records and deposition testimony of waste haulers indicated that large quantities of chemical wastes were disposed in the waste lagoon. These wastes included creosote, paint wastes, ink wastes, and pesticides. The RI/FS estimated that the total volume of contaminated materials in the lagoon was 107,000 cubic yards. The FS estimated that 17,000 cubic yards of lagoon waste materials exceeded risk-based protective levels.

Basis for Taking Action

Based on sampling results, the hazardous substances that were released at the site in each media include:

Soil

Toluene
Xylenes
Ethylbenzene
1,1,2-Trichloroethane
1,2-Dichloropropane
Benzene
Naphthalene
2-Methylnaphthalene
Phenanthrene
Bis(2-ethylhexyl)phthalate
Benzoic acid

Fluoranthene
Pyrene
Hexachlorobenzene
Flourene
Phenol
Butylbenzylphthalate
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Hexachlorobutadiene
Acenaphthene
Benzo(a)anthracene

Chrysene
Hexachlorocyclopentadiene
Heptachlor
Endrin ketone
Gamma Chlordane
Antimony
Cadmium
Lead
Silver
Thallium

Groundwater

Benzene
Ethylbenzene
Xylenes
Phenol
2-Methyl phenol
4-Methyl phenol
Acetone
1,2-Dichloroethane
Chlorobenzene

2-Hexanone
Methylene chloride
Toluene
1,1,2,2-Tetrachloroethylene
1,1,2-Trichloroethane
1,1 -Dichloroethane
1,2-Dichloroethane
1,2-Dichloroethene
1,2-Dichloropropane

Chloroethane
Chloroform
Trichloroethene
Vinyl Chloride
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Benzoic acid
Bis(chloroethyl)ether
Naphthalene

Leachate

Benzene
Chloroethane

1,1-Dchloroethane
Bis(2-chloroethyl)ether

Hexachlorobutadiene

In addition, the risk assessment concluded that the potential routes of current and future exposure above a Hazard Index of 1 and cancer risk above 1×10^{-4} included: ingestion of and direct contact with contaminated soils; ingestion of affected groundwater; dermal contact with groundwater; inhalation of chemicals that volatilize from groundwater to air during showering; and ingestion of and direct contact

with surface water and sediments during recreational activities. Inhalation of fugitive dust and volatile chemicals was also evaluated qualitatively as a potential exposure route but did not warrant a quantitative assessment because emissions from surface soil would likely be low. This is because the most contaminated portion of the site, the buried waste lagoon, was covered by up to 40 feet of demolition debris and was not considered a source of air risk.

For ecological risks, it was projected that, under the "no action" scenario, surface water standards may be exceeded in the future in the East Fork of Mill Creek for the following compounds: benzene, carbon tetrachloride, chloroform, 1,1,2,2-tetrachloroethane, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, bis(2-chloroethyl)ether, phenol, aldrin, dieldrin, and Aroclor 1254.

C. REMEDIAL ACTIONS

Remedy Selection

EPA organized the remedial action at the site into two phases, or "operable units" (OUs). The first OU was an interim action to protect human health from any immediate potential risks. EPA's ROD for the first OU interim action was signed on September 30, 1992. The interim action selected in the ROD included site fencing, connections to the Butler County public water system for potentially affected local users of groundwater, and groundwater monitoring. EPA issued a Unilateral Administrative Order (UAO) to the PRPs on December 9, 1992, for implementation of the interim action. Several PRPs complied with the UAO.

EPA signed the ROD for the second and final OU on June 4, 1993. The remedial action objectives for the final OU addressed potential future migration of site contaminants into groundwater as well as limiting direct exposure to site contaminants to humans through source control measures. The remedial action addressed the source of the contamination by intercepting and treating on-site groundwater. The function of this action was to control the landfill site as a source of groundwater contamination, to reduce the risks associated with the site and reduce exposure to contaminated materials, and to prevent untreated leachate from running offsite. The groundwater response action includes long-term monitoring with site-specific groundwater trigger levels. If site-specific groundwater trigger levels are exceeded in downgradient groundwater monitoring wells, EPA will consider whether additional remedial actions are necessary to address groundwater conditions. The ROD also required an investigation to determine the feasibility for soil vapor extraction (SVE) in the granular soil adjacent to the buried lagoon.

The major components of the selected remedy included:

- Construction of a hazardous waste landfill cap over the waste-materials;
- Interception, collection, and treatment of contaminated groundwater by a groundwater interception system (GIS);
- Diversion of upgradient groundwater flow;
- Monitoring;
- Institutional controls; and
- Soil vapor extraction.

In September 2012, EPA issued an Explanation of Significant Differences (ESD) for the site that eliminated the need for the Skinner PRP group to incorporate the upgradient groundwater control

remedy, a provision that was included in the ROD and consent decree. The ESD concluded that groundwater in contact with waste materials beneath the landfill cap has not resulted in contamination of the groundwater above the site-specific trigger levels and does not affect the protectiveness of the selected remedy, and therefore there is no need for upgradient groundwater control at the site.

Remedy Implementation

A Remedial Design (RD) Investigation was performed in 1994 to collect data required to assess the feasibility of the SVE and to design the multi-media cap and the groundwater extraction/treatment system. Based on the RD investigation, EPA determined that the installation of a SVE system was infeasible.

Judge Weber of the Federal District Court in Cincinnati, Ohio, signed the Remedial Action Consent Decree for the final operable unit on April 2, 2001. The PRP group constructed the landfill cap and the GIS under the requirements of the consent decree. Construction began in April 2001.

Landfill Cap

The general profile of the cap from top down includes vegetative cover materials, geocomposite drainage layer, flexible geomembrane liner (FML) primary barrier layer, geosynthetic clay liner (GCL) secondary barrier layer, geocomposite gas venting layer and the prepared subgrade.

Site preparation included clearing and grubbing, preparing the GIS working platform, and removing portions of the fence. The PRPs used on-site borrow material to construct the south sidehill fill area and the landfill cap subgrade. The fill material was transported to the application areas by off-road dump trucks and applied to fill these areas in lifts with a bulldozer. The grade was maintained by using a laser and grade rod and staking grade levels in a grid layout. The grade was spot-checked with the grade rod throughout the application process and verified after completion by surveyors. The Construction Quality Assurance (CQA) consultant and the liner subcontractor inspected each section of subgrade to verify that the subgrade was acceptable for placement of the geomembrane panels.

The first geosynthetic layer above the subgrade is a geocomposite consisting of a HOPE geonet with a 6-ounce non-woven geotextile, which is heat bonded on both sides. The geocomposite layer is used for collecting landfill gas. It was installed with gas vent stubs, which allowed for ease of attachment of the gas vents prior to the installation of the overlying cap layers. The geosynthetic installation contractor manually installed the geocomposite layer. Installation of the geocomposite generally proceeded from a higher elevation to a lower elevation to minimize wrinkles. The geonet was overlapped at least four inches and affixed together with plastic ties, with the geotextile sewn together with hand-held sewing machines.

The secondary barrier layer, a GCL, serves as a backup barrier for the primary barrier. The GCL consists of a 0.75 pound per square foot bentonite clay layer bonded to a non-woven geotextile backing. The installation contractor unrolled the GCL and pulled it into place; it was overlapped at least six inches edge to edge and two feet end to end. Installation of the GCL was conducted in a manner that provided immediate coverage of the GCL by the FML at the end of each working day to prevent hydration of the GCL.

The primary barrier of the landfill cap, the FML, consists of a 60-mil thick low linear density polyethylene FML textured on both sides. The FML was placed directly on top of the GCL immediately following installation of the GCL. The PRPs' contractor completed the placement and seaming of the FML in a timely fashion to minimize weather exposure to the GCL. Field seaming the FML panels was the most critical phase of the landfill cap construction and required the most rigorous CQA documentation activities. All major seaming was performed using double-tracked fusion welders. Where fusion welding was not possible, such as at joints and around gas vents and piezometers, an extrusion weld was used. The CQA consultant tested both the fusion and extrusion welds by nondestructive test methods to ensure a completed seal.

After the CQA consultant determined that sections of the FML were of acceptable quality, the drainage layer was installed over the FML. The drainage layer is a geocomposite consisting of an HOPE geonet with a 6-ounce non-woven geotextile heat bonded to both sides (similar material as the geocomposite gas venting layer). The drainage layer was installed over the FML to serve two purposes: 1) the geonet facilitates drainage of water that infiltrates through the vegetative cover materials, and 2) the geocomposite affords protection for the liner system during placement of the vegetative cover materials.

A minimum of 24 inches of soil was placed over the geosynthetic materials. The PRPs' contractor used an excavator, which casts material out ahead of the leading edge of the cap soil so that no wrinkling developed in the liner/drainage system materials. The cap soil was then pushed with a low ground pressure (LGP) bulldozer over the in-place drainage layer. Grade was maintained using PVC tubes as grade stakes, so as not to harm the underlying liner materials. No LGP equipment was allowed to be on top of the cap material without a minimum thickness of 18 inches of soil. The CQA consultant required that there was always a minimum of 3 feet of soil beneath the excavator and dump trucks. To accomplish the minimum thickness requirements, temporary haul roads were installed to enable access to the location where filling occurred. After the application of the cap soil layer was complete, seeding and fertilizing was conducted with a hydro-seeder. Erosion matting was used on the slopes, and affixed in place with aluminum hooks to help hold the seed in place.

The PRPs achieved surface water drainage control for the site through the construction of a network of interceptor ditches, drainage letdowns, and culverts. The purpose of the controls is to manage surface water infiltration into the landfill, minimize landfill surface erosion, and direct infiltration away from known disposal areas.

Ten gas probes were constructed around the perimeter of the landfill to monitor landfill gas migration from the site.

Groundwater Interception System

The GIS was installed to intercept and capture groundwater migrating from the landfill to the East Fork of Mill Creek. The GIS consists of a single cutoff wall of soil-bentonite keyed into bedrock, three gravel-filled trenches each with a single groundwater extraction well, and a force main system to convey the groundwater to the Butler County sanitary sewer system. The groundwater is tested to make sure the contaminant levels in groundwater discharged to the sewer system are within the limits of the PRPs' Industrial Discharge Permit from the Butler County Department of Environmental Services (BCDES) (see Attachment 6).

The soil-bentonite cut-off walls are capped with native clay to provide protection and a surface for site access. The wall extends from two to three feet below ground surface (bgs) to where it is keyed into the bedrock. The PRPs constructed the cut-off wall by excavating a trench using an extended boom excavator equipped with a 24-inch wide bucket with ripping teeth. The trench was constructed by excavating to bedrock (ranging from approximately 10 feet to 30 feet below grade) and placing the trench spoils to the side. Bentonite clay and water were mixed to create a slurry in a self-contained mixing plant. The bentonite slurry was mixed with the trench spoils to create a soil-bentonite slurry backfill. The bentonite slurry and trench spoils were mixed alongside the trench on the up-gradient (upstream) side. The PRPs reincorporated the majority of the trench spoils into the cut-off wall, with excess soils being used as subgrade for the landfill cap.

The PRPs installed the interceptor trench in three separate sections between the landfill and the cut-off wall. They created a vertical zone of high permeability gravel extending from two to three feet bgs to approximately four or five feet below the lowest significant sand/gravel seam. The interceptor trenches were generally installed parallel to the cut-off wall. Each trench was excavated to the specified depth (ranging from 14 to 23 feet below grade). The PRPs placed a bio-polymer slurry in the trench bottom prior to placing the geotextile and backfilling, in order to ensure the integrity of the excavation sidewalls. The slurry allowed for the placement of the geotextile, the granular material, and the observation well components. Prior to placement of the slurry, a geotextile filter fabric was installed along the bottom and sides of the trench. The geotextile fabric was overlapped four feet lengthwise to ensure complete coverage of the trench. The purpose of the geotextile is to filter out fines from the groundwater that may clog the extraction well pumps.

As backfill was placed around the interceptor trench, the PRPs installed extraction and observation wells in accordance with the design specifications. The groundwater extraction pumps were installed in the extraction well of each interceptor trench. The pumps consist of 4" diameter submersibles rated at 25 gallons per minute. The pumps' discharge is transported through a vertical discharge line that is connected to the force main. The force main consists of a 2-inch diameter HOPE pipe approximately 30 inches bgs extending from Extraction Well #1 to the Gravity Manhole, at which point it is discharged into the Butler County public sanitary sewer system.

Other Issues

Soils from two contaminated soil areas located outside the landfill area, but within the limits of the site, Area BP01/BP02 and Area GW-38, were excavated and moved to the on-site landfill and incorporated under the landfill cap. After excavation of these areas, the PRPs collected and analyzed confirmation soil samples from each location to ensure that all the contaminated soil was excavated.

Monitoring wells and piezometers were installed in and around the landfill to: 1) monitor the groundwater elevation under the cap to determine contact with buried waste, and 2) assess the long-term performance of the groundwater interception system (interception trench and cut-off wall) in accordance with the Long-Term Performance Plan (LTPP) (part of operation and maintenance at the site). During the remedial action construction activities, the PRPs installed nine new groundwater monitoring wells and one replacement groundwater well. Twelve piezometers were installed, four of which are installed through the landfill cap in order to monitor whether the groundwater is in contact with landfill waste.

The remedy also restricts physical access to the site with a six-foot high fence with barbed wire at the top, around the entire site perimeter. The fence is sufficient to prevent the public from easily entering

the site. The fence is posted with numerous visible warning signs to inform the public of potential site hazards.

Nearby residences located southwest of the site were connected to a public water supply in order to prevent these residents from being exposed to contaminated groundwater.

The remedial action construction work was completed at the site in September 2001. A Preliminary Closeout Report documenting sitewide construction completion was signed on September 27, 2001.

Removal Action

In August 2007, Ohio EPA was notified via a complaint that assorted electronic waste (e-waste) was being stored in open containers along the southwestern portion of the fence surrounding the Skinner Landfill. Ohio EPA investigated the complaint and identified 78 one-cubic-yard cardboard containers of crushed computer glass and a roll-off container of assorted computer parts, including intact monitors and hard drives. The waste was being stored in an uncovered location and the weather was causing the containers to deteriorate rapidly.

Ohio EPA sampled the waste material and determined it to be hazardous waste based on its high lead content. In February 2008, Ohio EPA issued Notices of Violation to the waste generator and to Skinner Demolition, requiring abatement of the illegal storage of hazardous waste. Neither party submitted a compliance plan to Ohio EPA. In March 2008, Ohio EPA requested assistance from EPA with the assessment, removal, and disposal of the hazardous waste.

EPA confirmed that the waste exceeded hazardous waste regulatory limits for lead. After both parties failed to submit a response to EPA's Notice of Liability, EPA initiated a time-critical removal of the hazardous waste. EPA and its contractors began the cleanup on June 9, 2008. Approximately 131 tons of hazardous waste, including crushed cathode ray tubes, e-waste, and contaminated soil were disposed of at the Michigan Disposal Waste Treatment Plant in Belleville, Michigan. EPA completed this removal action on June 11, 2008.

System Operation/Operation and Maintenance

Prior to 2012, O&M activities were performed by Earth Tech/AECOM, a contractor for the Skinner PRP group. The Skinner PRP group changed contractors in 2012, and Brown and Caldwell now conduct O&M activities at the site. In addition, Butler County has personnel performing activities associated with O&M.

The groundwater extraction system consists of approximately 770 lineal feet of interceptor trench in three sections and 985 lineal feet of cut-off wall. Located at the low point of the three sections of the interceptor trenches are three extraction wells. Each of the three extraction wells contains a submersible pump. The pump discharge is tied to a force main that transfers the groundwater from the wells to an existing sanitary sewer, and from there to the Butler County sewage treatment plant (Publicly Owned Treatment Works or POTW). The pumps have three level controls, one for "pump on," one for "pump off," and one for high-level "alarm." If a "pump on" signal is continuous for a predetermined amount of time, the off-site system operators are advised of this condition via an automatic alarm. Each pump is connected to a run timer that records the time a pump has been operating.

All of the pumps operate independently. They are connected to a main control panel, which is located at the west end of the GIS. The panel contains run indicator lights for the pumps as well as depth of water indicators in each extraction well with respect to the depth transducer. Additionally, the panel includes a telephone auto dialer that calls a minimum of four predetermined numbers in the event of an alarm situation. The auto dialer has prerecorded messages indicating the alarm condition and location. The system is designed to be monitored remotely, without the need for the routine presence of an operator.

The pumps, valves, settings of the pump control and alarm, flow measurement device, and continuous sampler are the primary components requiring maintenance on the GIS. During the first six months of operation, the O&M tasks related to the GIS, such as routine maintenance and calibrating the GIS equipment, were performed on a monthly basis. After the first 6 months, the O&M activities were conducted on a quarterly basis, and since 2010 they have been conducted on a semi-annual basis.

The O&M plan provides for inspection and repair of the physical components of the site after closure. Maintenance activities for the final cap include mowing, earthwork activities to correct erosion and sedimentation problems, re-vegetation of disturbed or distressed areas, re-grading in settlement areas as determined necessary, and localized repairs due to intrusion, vandalism, etc. The final cap is inspected quarterly for signs of damage.

The LTPP provides the mechanism to ensure that the remedial action meets the long-term performance standards set forth in the ROD. Sampling and chemical analysis of groundwater, surface water, and the measurement of groundwater elevations have occurred as part of O&M activities since the remedial action was completed. A description of these field activities is provided below.

Groundwater Sampling

A line of monitoring wells between the GIS alignment and the East Fork of Mill Creek aims to demonstrate that contaminated groundwater is not being discharged to Mill Creek. From 2003 to 2009, the PRPs' contractor conducted quarterly sampling of these 11 monitoring wells, known as the point of compliance. The PRPs then petitioned EPA and Ohio EPA to modify the parameter list and sampling frequency based on the groundwater monitoring results, and EPA approved the PRPs' request in late 2009. As a result, in 2010 the number of wells to be monitored was reduced to 7 and the monitoring frequency was reduced to semi-annual sampling. The samples are analyzed for the parameters shown in Attachment 2.

Three monitoring wells installed during the RI are located outside the fenced area. The PRPs' contractor samples and tests these wells annually to monitor groundwater quality around the landfill. In addition, the PRPs' contractor records the measurements of water levels and the presence or absence of dense non-aqueous phase liquids (DNAPLs), dense organic chemicals that are not soluble in water, in all existing piezometers, monitoring wells, and select gas probes. The measurements are used to evaluate the water table and to monitor for DNAPLs in the vicinity of the landfill cap and GIS.

Surface Water Monitoring

The PRPs' contractor collects surface water samples for analysis from three monitoring points along the East Fork of Mill Creek and three run-off outfall locations. Monitoring points were chosen to allow impacts from site run-off to be evaluated. Water entering the site upgradient (uphill) of the landfill and water leaving the site are monitored. Also monitored are points where site water is discharged into

streams and points downstream of these discharges. The PRP's contractor collected these samples quarterly and semi-annually and analyzed them for the parameters shown in Attachment 2. The PRPs then petitioned EPA and Ohio EPA to modify the parameter list and sampling frequency, and EPA approved the PRPs' request in late 2009. As a result, the number of locations was reduced to four, the frequency of sampling was reduced from quarterly to semi-annual sampling, and the parameter list was modified to require sampling for VOCs, SVOCs, pesticides and PCBs only during the spring event.

Groundwater-Waste Monitoring

Until such monitoring was discontinued (after December 2012), the Groundwater-Waste Monitoring Plan (GWMP) provided a mechanism to evaluate whether the waste material underneath the cap is in contact with site groundwater and whether the landfill cap is affecting the groundwater elevations beneath the landfill. The plan provided for quarterly measurements of the groundwater elevation and flow direction for two years (subsequent to remedial action completion) or until the groundwater data stabilized for at least four consecutive quarters, whichever was longer. Twelve piezometers, 15 monitoring wells, and 2 gas probes within and around the landfill cap were measured under the GWMP.

This monitoring began in September 2001, which is when EPA approved the remedial action construction completion report. The data derived from the quarterly sampling events was used to evaluate whether or not the waste material underneath the cap is in contact with site groundwater. The PRPs' contractor implemented this monitoring in conjunction with the quarterly groundwater sampling at the 11 point-of-compliance monitoring wells. The data were used to assess the effectiveness of the GIS and the potential need to construct an upgradient slurry wall.

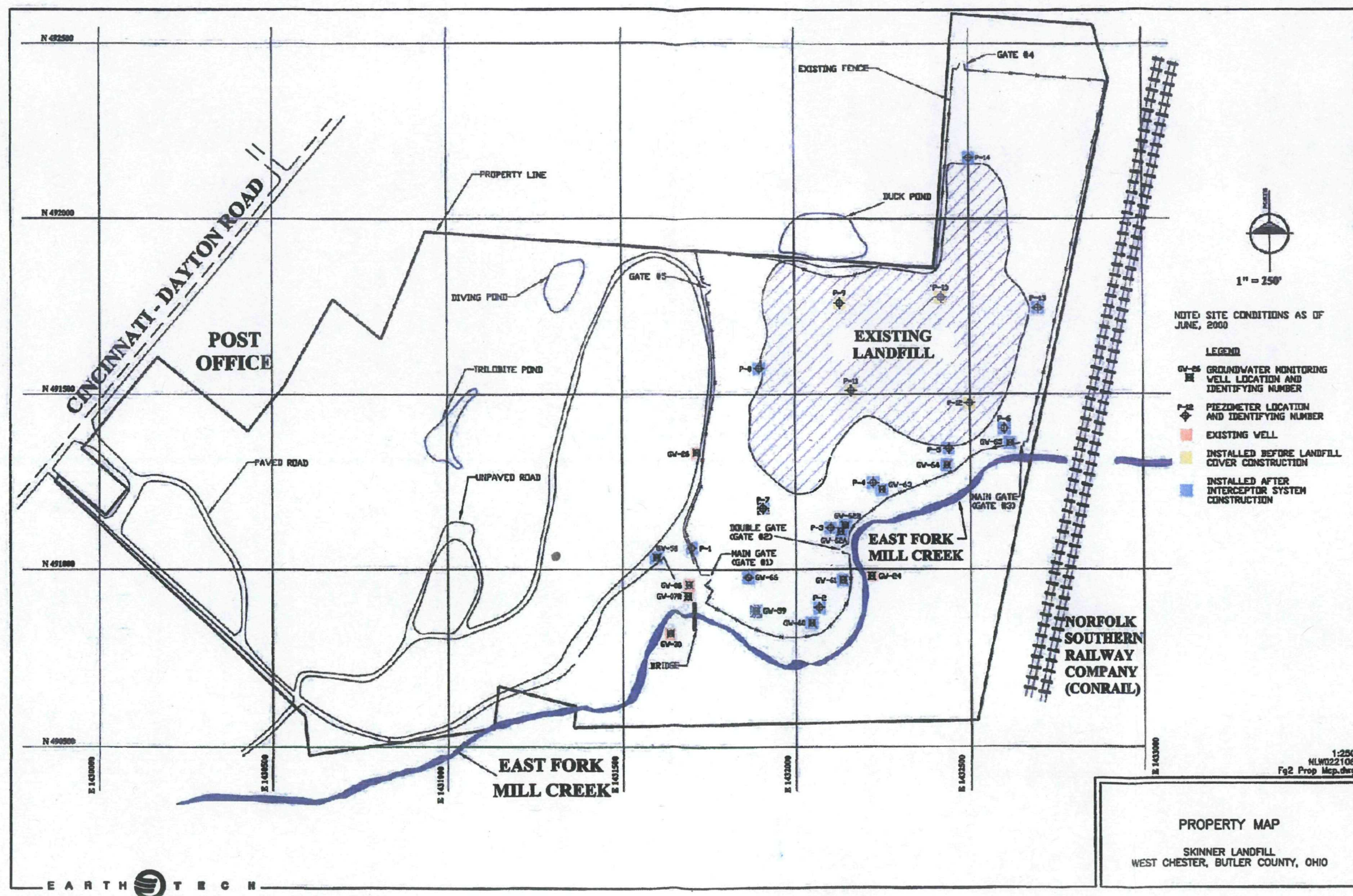
In 2006, it was necessary to replace four inoperable piezometers. Piezometers P-9 to P-12 were used to monitor groundwater levels beneath the landfill cap, with respect to whether groundwater is in contact with the bottom level of the waste. Subsurface settlement caused the original piezometers to warp, which restricted access to the groundwater level measurement probes. The former piezometers were replaced with Piezometers P-9R to P-12R, using a larger diameter stainless steel casing to minimize future constriction of the well casings.

The Corrective Action Work Plan for Piezometer Replacement was approved by EPA on May 23, 2006. The piezometer replacement took place between December 2006 and January 2007. The corrective measures were performed in accordance with the EPA-approved Work Plan, with the exception of the locations of piezometers P-9R and P-12R. The P-9R boring location was placed approximately 10 feet to the north of its proposed location, due to the inability to drill down more than approximately 7 feet bgs at the proposed original boring location. P-12R was installed 20 feet to the northeast of the proposed location, due to errors in the field measurement caused by the slope in topography at this location. P-10R and P-11R are located within 5 feet of the original proposed locations. Since the original groundwater-waste monitoring piezometers were damaged and new piezometers had to be installed, EPA approved an extension of the monitoring period regarding the determination of whether an upgradient slurry wall was required.

After the installation of the new piezometers, two years of groundwater monitoring was completed in Fall 2008. In September 2012, EPA issued an ESD that eliminated the need for the PRP group to implement the upgradient groundwater control remedy included in the ROD and consent decree.

APPENDIX B – Attachments

Attachment 1



Attachment 2

TABLE 9
REVISED MODIFIED TRIGGER LEVELS

Compound	Units	Modified Trigger Limit
Volatile Organic Compounds		
1,1,1-Trichloroethane	ug/l	88
1,1,2,2-Tetrachloroethane	ug/l	107
1,1,2-Trichloroethane	ug/l	418
1,2-Dichloroethane	ug/l	5
1,2-Dichloroethane(total)**	ug/l	70
1,2-Dichloropropane	ug/l	5
2-Butanone	ug/l	7.1
Benzene	ug/l	5
Carbon Tetrachloride	ug/l	5
Chlorobenzene	ug/l	26
Chloroform	ug/l	79
Ethylbenzene	ug/l	62
Styrene	ug/l	56
Tetrachloroethene	ug/l	5
Toluene	ug/l	1000
Trichloroethene	ug/l	5
Vinyl Chloride	ug/l	2
Xylene (total)	ug/l	10000
Semi-Volatile Organics		
1,2,4-Trichlorobenzene	ug/l	77
1,2-Dichlorobenzene	ug/l	11
1,3-Dichlorobenzene	ug/l	600
1,4-Dichlorobenzene	ug/l	75
2,2'-oxybis-(1-Chloropropane)#	ug/l	4360
<u>2,4-Dimethylphenol</u>	<u>ug/l</u>	<u>2120</u>

TABLE 9

REVISED MODIFIED TRIGGER LEVELS

Compound	Units	Modified Trigger Limit
4-Nitrophenol	ug/l	150
Acenaphthene	ug/l	520
Benzo(a)anthracene	ug/l	10
Benzo(a)pyrene	ug/l	10
Benzo(b)fluoranthene	ug/l	10
Benzo(g,h,i)perylene	ug/l	10
Benzo(k)fluoranthene	ug/l	10
bis(2-Chloroethyl)Ether	ug/l	13.6
bis(2-Ethylhexyl)phthalate	ug/l	49
Butylbenzylphthalate	ug/l	10
Chrysene	ug/l	10
Di-n-butylphthalate	ug/l	190
Dibenzo(a,h)anthracene	ug/l	10
Dimethylphthalate	ug/l	73
Fluoranthene	ug/l	10
Hexachloroethane	ug/l	10
Indeno(1,2,3-cd)pyrene	ug/l	10
Isophorone	ug/l	900
Naphthalene	ug/l	44
Nitrobenzene	ug/l	27000
Phenanthrene	ug/l	10
Phenol	ug/l	370
Inorganics		
Antimony	ug/l	60
Arsenic	ug/l	10
Barium	ug/l	1000
Beryllium	ug/l	5
Cadmium	ug/l	5

Skinner Landfill
Operation & Maintenance-Long Term Performance Plan

TABLE 9

REVISED MODIFIED TRIGGER LEVELS

Compound	Units	Modified Trigger Limit
Chromium	ug/l	11
Copper	ug/l	25
Iron	ug/l	5000
Lead	ug/l	4.2
Mercury	ug/l	0.2
Nickel	ug/l	96
Selenium	ug/l	5
Silver	ug/l	10
Thallium	ug/l	40
Zinc	ug/l	86
Cyanide	ug/l	10

Only parameters with existing Table 1 trigger levels were evaluated.

Previously known by the name bis(2-Chloroisopropyl)ether.

** Existing trigger for cis isomer is 70 ug/l, trans isomer is 100 ug/l.

Attachment 3



200600009454
Filed for Record in
BUTLER COUNTY, OHIO
DANNY M CRANK
02-14-2006 At 09:22:24 am.
AGREEMENT 212.00
OR Book 7699 Page 953 - 977

BK: 7899 PG: 953

To be recorded with Deed
Records - ORC § 317.08

9/15/05

ENVIRONMENTAL COVENANT

This Environmental Covenant is made as of the 34th day of JANUARY, 2005, by and among Owners Elsa Skinner-Morgan and David Morgan (as further identified below) and Holders, Elsa Skinner-Morgan and David Morgan (as further identified below) pursuant to Ohio Revised Code ("ORC") §§ 5301.80 to 5301.92 for the purpose of subjecting the Site and the Restricted Area (described below) to the activity and use limitations and to the rights of access described below.

Whereas, pursuant to Section 105 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9605, the United States Environmental Protection Agency ("EPA"), placed the Skinner Landfill Site ("Site") on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register, 48 Fed. Reg. 40658 (September 8, 1983); and

Whereas, in a Remedial Action/Feasibility Study (RI/FS) completed on June 4, 1993, EPA found the following contaminants had been released into the soil at the Site: toluene, xylenes, ethylbenzene, 1,1,2-trichloroethane, 1,2-dichloropropane, benzene, naphthalene, 2-methylnaphthalene, phenanthrene, bis(2-ethylhexyl)phthalate, benzoic acid, fluoranthene, pyrene, hexachlorobenzene, flourene, phenol, butylbenzophthalate, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachlorobutadiene, acenaphthene, benzo(a)anthracene, chrysene, hexachlorocyclopentadiene, heptachlor, endrin ketone, gamma chlordane, antimony, cadmium, lead, silver and thallium. In the same RI/FS, EPA found the following contaminants had been released into the groundwater at the Site: benzene, ethylbenzene, xylenes, phenol, 2-methyl phenol, 4-methyl phenol, acetone, 1, 2-dichloroethane, chlorobenzene, 2-hexanone, methylene chloride, toluene, 1,1,2,2-tetrachloroethylene, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichloroethene, 1,2-dichloropropane, chloroethane, chloroform, trichloroethene, vinyl chloride, 1,3-dichlorobenzene, 1,4-dichlorobenzene, benzoic acid, bis(chloroethyl)ether, and naphthalene; and

Whereas, EPA issued a Record of Decision (ROD) for the Operable Unit Interim Action on September 30, 1992, which provided for Site fencing, and connections to the Butler County public water system for potentially affected local users of groundwater, and groundwater monitoring, and whereas EPA issued a final ROD on June 4, 1993 which called for the construction of a RCRA cap over the waste materials; interception, collection, and treatment of contaminated groundwater; diversion of upgradient groundwater flow, if necessary; monitoring; soil vapor extraction; and institutional controls to limit the future use of the property where remedial construction has occurred and to protect the performance of the remedy, and to prevent the exposure of humans or the environment to contaminants; and

TRANSFER NOT NECESSARY
KAY ROGERS
BY 2/14/06 DEPT.
AUDITOR, BUTLER CO., OHIO

Whereas on December 9, 1992, a EPA issued a Unilateral Administrative Order to various potentially responsible parties, and on April 2, 2001, a Remedial Action Consent Decree was entered which provided for the implementation of the remedial action selected in the June 4, 1993 ROD, and whereas with the exception of the diversion of the upgradient groundwater (which has not yet been determined to be necessary) and the institutional controls, the remedial action has been implemented at the Site; and

Whereas, the parties hereto have agreed: 1) to grant a permanent right of access over the Site to the Access Grantees (as hereafter defined) for purposes of implementing, facilitating and monitoring the remedial action, and 2) to impose on the Site activity and use limitations as covenants that will run with the land for the purpose of protecting human health and the environment; and

Now therefore, Owners and EPA agree to the following:

1. Environmental Covenant. This instrument is an environmental covenant executed and delivered pursuant to §§ 5301.80 to 5301.92 of the Ohio Revised Code.

2. Site; Restricted Area. The three (3) parcels of real property which together contain 78.29 acres located in Union Township, Butler County, Ohio (the "Site") which are subject to the environmental covenants set forth herein are described on Exhibit A attached hereto and hereby by reference incorporated herein. Part of the Site which is subject to certain activity and use limitations in Paragraph 5 below is described on Exhibit B attached hereto and hereby incorporated herein, and is hereafter referred to as the "Restricted Area." The Site is outlined by heavy black line on the copy of the Butler County, Ohio Auditor's tax map (the "Map") attached hereto as Exhibit C-1 and the Restricted Area is shown by diagonal lines on the copy of the Map attached hereto as Exhibit C-2.

3. Owner. Elsa Skinner-Morgan ("Owner") who resides at 8750 Cincinnati Dayton Road, West Chester, Ohio 45069 is the owner of the Site. David Morgan, ("Morgan") of the same address, who is the husband of Owner, joins in this Environmental Covenant in order to subject his dower/courtesy interest and any other interest in the Site which he may now or hereafter hold to the terms of this instrument. Owner and David Morgan are the Settling Owner/Operator Defendants named in the Consent Decree (described in Paragraph 10 below).

4. Holdes. Elsa Skinner-Morgan and David Morgan, whose address appears in Paragraph 3 above.

5. Activity and Use Limitations on the Restricted Area and on the Site.

(a) Owner agrees for herself and her successors in title not to permit the Site to be used in any manner that would interfere with or adversely affect the integrity or protectiveness of the remedial action which has been implemented or which will be implemented pursuant to the Consent Decree unless the written consent of the EPA to such use is first obtained. Owner's agreement to restrict the use of the Site shall include, but not be limited to, not permitting any drilling, digging,

building, or the installation, construction, removal or use of any buildings, wells, pipes, roads, ditches, or any other structures on the Restricted Area unless the written consent of EPA to such use or activity is first obtained. Further, Owner agrees for herself and her successors in title to refrain from bringing, and to refuse to grant permission to any other person to bring, Waste Material or Scrap Metal onto the Site, except in accordance with any federal, state or local permit or the Consent Decree.

(b) Owner covenants for herself and her successors and assigns, that the Restricted Area, shall be used solely for Commercial/Industrial Activities only in accordance with an EPA-approved plan for re-use of the Restricted Area as required under Paragraph 5(a) and the Restricted Area shall not be used for Residential and Other Prohibited Activities. Owner acknowledges and agrees that the Restricted Area has been remediated only for commercial/industrial uses. The term "Commercial/Industrial Activities" includes: (i) wholesale and retail sales and service activities including, but not limited to retail stores, and automotive fuel, sales and service facilities; (ii) governmental, administrative and general office activities, (iii) manufacturing, processing, and warehousing activities, including, but not limited to, production, storage and sales of durable goods and other non-food chain products; and (iv) activities which are consistent with or similar to the above listed activities; together with related parking areas and driveways, but excludes Residential and Other Prohibited Activities. The term "Residential and Other Prohibited Activities" includes: (i) single and multi-family dwellings and transient residential units; (ii) day care centers and preschools; (iii) public and private elementary and secondary schools; (iv) hospitals, assisted living facilities and other extended care medical facilities and medical and dental offices; (v) food preparation and food service facilities, including food stores, restaurants, banquet facilities and other food preparation or sales facilities; and (vi) indoor or outdoor entertainment and recreational facilities.

(c) Owner covenants for herself and her successors and assigns that there shall be no consumptive use of Site groundwater, either on or off the Site.

6. Running with the Land. This Environmental Covenant shall be binding upon the Owner and all assigns and successors in interest, including any Transferee, and shall run with the land, pursuant to ORC § 5301.85, subject to amendment or termination as set forth herein. The term "Transferee," as used in this Environmental Covenant, shall mean any future owner of any interest in the Site or any portion thereof, including, but not limited to, owners of an interest in fee simple, mortgagees, easement holders, and/or lessees.

7. Requirements for Notice to EPA Following Transfer of a Specified Interest in, or Concerning Proposed Changes in the Use of, Applications for Building Permits for, or Proposals for any Site Work Affecting Contamination on, the Restricted Area. Neither Owner nor any Holder shall transfer any interest in the Restricted Area or make proposed changes in the use of the Restricted Area, or make applications for building permits for, or proposals for any work in the Restricted Area without first providing notice to EPA and

obtaining any approvals or consents thereto which are required under Sections VII, VIII, X or XIII of the Consent Decree.

8. Access to the Site. Pursuant to Section X of the Consent Decree, Owner agrees that EPA and the Settling Generator/Transporter Defendants, their successors and assigns, and their respective officers, employees, agents, contractors and other invitees (collectively, "Access Grantees") shall have and hereby grants to each of them an unrestricted right of access to the Site to undertake the Permitted Uses described in Paragraph 9 below and, in connection therewith, to use all roads, drives and paths, paved or unpaved, located on the Site or off the Site ("off-site") and rightfully used by Owner and Owner's invitees for ingress to or egress from portions of the Site (collectively, "Access Roads"). The Site and the Access Roads are shown on the Survey. The off-site Access Roads referred to in the preceding sentence are located on the parcels described on Exhibits D and E attached hereto. The right of access granted under this Paragraph 8 shall be irrevocable while this Covenant remains in full force and effect. The Settling Generator/Transporter Defendants are named on Exhibit F attached hereto.

9. Permitted Uses. The right of access granted under Paragraph 8 of this Environmental Covenant shall provide Access Grantees with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to the Consent Decree or the purchase of the Site, including, but not limited to, the following activities:

- a) Monitoring the Work;
- b) Verifying any data or information submitted to the United States or the State;
- c) Conducting investigations relating to contamination at or near the Site;
- d) Obtaining samples;
- e) Assessing the need for, planning, or implementing response actions at or near the Site;
- f) Implementing the Work pursuant to the Consent Decree;
- g) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Owner or her agents, consistent with Section XXXI (Access to Information) of the Consent Decree;
- h) Assessing Settling Generator/Transporter Defendants' compliance with the Consent Decree;
- i) Determining whether the Site or other property is being used in a manner that is prohibited or restricted or that may need to be prohibited or restricted by or pursuant to the Consent Decree; and

- j) Surveying and making soil tests of the Site, locating utility lines, and assessing the obligations which may be required of a Prospective Purchaser (as defined in the Consent Decree) by EPA under the Consent Decree.

10. Administrative Record.

- (a) Owner is the Defendant in an action filed by EPA under federal programs governing environmental remediation of the Site under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9601 et seq. in the United States District Court for the Southern District of Ohio, Western Division, Civil Action No., C-1-00-424 and has executed and delivered a Consent Decree dated April 2, 2001, (the "Consent Decree") settling such lawsuit. A certified copy of the Consent Decree has been recorded in the Office of the Butler County Recorder at OR Book 6658, Pages 413-613. The Consent Decree constitutes an environmental response project as defined by ORC § 5301.80(E) and authorizes and requires certain remedial action to be taken by the Settling Generator/Transporter Defendants. On June 4, 1993, EPA issued a Record of Decision (ROD) which set forth EPA's determination of the appropriate remedial action to be implemented at the Site to address Site contamination. Pursuant to this ROD, EPA approved a Remedial Design and Remedial Action work plan which has been implemented as described in the fourth "Whereas" clause at the beginning of this instrument. EPA's ROD was based upon an administrative record. Copies of the EPA administrative record for the Skinner Landfill Site are maintained at the following locations: EPA Region 5; Superfund Records Center (7th Floor); 77 W. Jackson; Chicago, Illinois 60604; Union Township Library, 7900 Cox Road, West Chester, Ohio 45069; and Union Township Hall, 9113 Cincinnati-Dayton Road, West Chester, Ohio 45069.
- (b) Under Section X, Paragraphs 27 and 28 of the Consent Decree, Owner has agreed to provide the institutional controls with respect to the Site that are set forth in this Environmental Covenant. Owner has executed and delivered this Environmental Covenant to satisfy and implement her agreements to provide such institutional controls under the Consent Decree and as herein provided. All capitalized terms in this Environmental Covenant which are not defined herein shall have the same meaning as set forth in the Consent Decree or in Sections 5301.80 to 5301.90 Ohio Revised Code.

11. Notice upon Conveyance. Each instrument hereafter conveying any interest in the Site or Restricted Area or any portion of the Site or Restricted Area shall contain a notice of the activity and use limitations, and grants of access set forth in the Environmental Covenant, and provide the recorded location of this Environmental Covenant. For instruments conveying any interest in the Site or any portion thereof other than the Restricted Area, the notice shall be

substantially in the form set forth in Exhibit G. For instruments conveying any interest any interest in the Restricted Area or any portion thereof, the notice shall be substantially in the form set forth in Exhibit H.

12. Amendments; Early Termination. This Environmental Covenant may be modified or amended or terminated while Owner owns the property only by a writing signed by Owner and, EPA with the formalities required for the execution of a deed in Ohio which is recorded in the Office of the Recorder of Butler County, Ohio. Upon transfer of all or any portion of the Site, Owner waives any rights that she might otherwise have under Section 5301.90 of the Ohio Revised Code to withhold her consent to any amendments, modifications, or termination of this Environmental Covenant, to the extent that she has transferred her interest in that portion of the Site affected by said modification, amendment or termination. The rights of Owner's successors in interest as to a modification, amendment or termination of this Environmental Covenant are governed by the provisions of Section 5301.90 of the Ohio Revised Code.

13. Other Matters.

- (a) Representations and Warranties of Owner and Morgan. Owner and Morgan represent and warrant; that Owner is the sole owner of the Site; that Owner holds fee simple title to the Site which is free, clear and unencumbered except for the Consent Decree; that Owner and Morgan have the power and authority to make and enter into this Agreement as Owner and Holder, to grant the rights and privileges herein provided and to carry out all obligations of Owner, Morgan and Holder hereunder; that this Agreement has been executed and delivered pursuant to the Consent Decree; and, that this Agreement will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which Owner or Morgan is a party or by which Owner or Morgan may be bound or affected.
- (b) Right to Enforce Agreement Against Owner and Morgan; Equitable Remedies. In the event that Owner, Morgan or any other person should attempt to deny the rights of access granted under Paragraph 8 or should violate the restrictions on use of the Site set forth in Paragraph 5, then, in addition to any rights which EPA may have under the Consent Decree, EPA or any Settling Generator/Transporter Defendant that is adversely affected by each denial (for example, any Settling Generator/Transporter Defendant that is prevented from conducting its remedial obligations under the Consent Decree) or by such violation shall have the right to immediately seek an appropriate equitable remedy and any court having jurisdiction is hereby granted the right to issue a temporary restraining order and/or preliminary injunction prohibiting such denial of access or use in violation of restrictions upon application by EPA or by such adversely affected Settling Generator/Transporter Defendant without notice or posting bond. Owner and each subsequent owner of the Site by accepting a deed thereto or to any part thereof waives all due process or

other constitutional right to notice and hearing before the grant of a temporary restraining order and/or preliminary injunction pursuant to this Subsection 13(b).

- (c) Future Cooperation; Execution of Supplemental Instruments. Owner agrees to cooperate fully with EPA and/or the Settling Generator/Transporter Defendants and to assist them in implementing the rights granted them under this Environmental Covenant and, in furtherance thereof, agrees to execute and deliver such further documents as may be requested by EPA to supplement or confirm the rights granted hereunder.
- (d) Cumulative Remedies; No Waiver. All of the rights and remedies set forth in this Environmental Covenant or otherwise available at law or in equity are cumulative and may be exercised without regard to the adequacy of, or exclusion of, any other right, remedy or option available hereunder or under the Consent Decree or at law. The failure to exercise any right granted hereunder, to take action to remedy any violation by Owner or Morgan of the terms hereof or to exercise any remedy provided herein shall not be deemed to be a waiver of any such right or remedy and no forbearance on the part of EPA and no extension of the time for performance of any obligations of Owner or Morgan hereunder shall operate to release or in any manner affect EPA's rights hereunder.
- (e) Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.
- (f) Recordation. Within thirty (30) days after the date of the final required signature upon this Environmental Covenant, Owner shall file this Environmental Covenant for recording, in the same manner as a deed to the Site, with the Butler County Recorder's Office.
- (g) Effective Date. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded as a deed record for the Site with the Butler County Recorder.
- (h) Distribution of Environmental Covenant/Other Notices. The Owner shall distribute a file-stamped and date-stamped copy of the reorded *Environmental Covenant* to: Ohio EPA, Butler County, each person holding a recorded interest in the Site, and the Settling Generator/Transporter Defendants. All notices, requests, demands or other communications required or permitted under this Environmental Covenant shall be given in the manner and with the effect set forth in the Consent Decree.

- (f) Notices – All notices, requests, demands or other communications required or permitted under this Environmental Covenant shall be given in the manner and with the effect set forth in the Consent Decree.
- (g) Governing Law. This Environmental Covenant shall be construed according to and governed by the laws of the State of Ohio and the United States of America.
- (h) Captions. All paragraph captions are for convenience of reference only and shall not affect the construction of any provision of this Environmental Covenant.
- (i) Time of the Essence. Time is of the essence of each and every performance obligation of Owner and Morgan under this Environmental Covenant.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, Owner, Morgan and EPA have executed and delivered this Environmental Covenant as of the date first above written.

OWNER

Elsa M. Skinner-Morgan
Elsa M. Skinner-Morgan, a/k/a
Elsa M. Skinner

David Morgan
David Morgan

STATE OF OHIO)
) SS.
COUNTY OF BUTLER)

The foregoing instrument was acknowledged before me this 16th day of November 2005, by Elsa M. Skinner-Morgan, a/k/a Elsa M. Skinner and David Morgan, wife and husband.

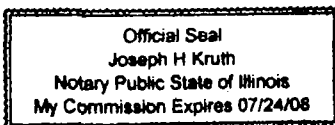
Emothy K. Evers
Notary Public

UNITED STATES OF AMERICA
On behalf of the Administrator of the
United States Environmental Protection Agency

By: Richard C. Karl
Richard C. Karl, Director,
Superfund Division, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this 24th day of JANUARY, 2005, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency, on behalf of the United States of America.



Joseph H. Kruth
Notary Public

EXHIBIT A

Legal Description of the "Site"

PARCEL I

Situated in and being in Section 22, Town 3, Range 2 and in Union Township, Butler County, Ohio, and is bounded and described as follows:

Beginning at the Northwest corner of the Southeast Quarter of said Section 22, Town 3, Range 2; thence along the north line of the southeast quarter section, South 86° 09' East, 300.40 feet to an old stone; thence North 4° 18' 45" East, 726.56 feet to an iron pipe; thence South 85° 57' 45" East, 406.26 feet to the old right of way for the C.C.C. & St. L. Railroad; thence along said old right of way line South 15° 10' 45" East, 163.00 feet to a point in the present right of way line for the C.C.C. & St. L. Railroad; thence along said present Railroad right of way line, South 11° 49' West, 1865.17 feet to an iron pipe; thence South 89° 03' West, 512.03 feet; (witnessed by an iron pipe, North 89° 03' East, 2.00 feet); thence North 3° 59' East, 1318.92 feet to an iron pipe and the point of beginning; containing 24.852 acres of land, more or less.

M5610-023-000-015

PARCEL II

Situate in Section 22, Town 3, Range 2, Union Township, Butler County, Ohio and being part of the property conveyed to Elsa M. Skinner by deed recorded in Deed Book 1236, Page 337, in the Butler County Recorder's Office, and being more particularly described as follows:

Commencing at the intersection of the west line of Section 22 and the half section line; thence along said half section line, South 87° 01' 55" East, 982.76 feet to the centerline of Cincinnati-Dayton Road; thence leaving said half section line and along said centerline, South 39° 59' 08" West, 861.28 feet to the western most corner of said Skinner lands; thence along said centerline, North 39° 59' 08" East, 198.15 feet to the point of beginning of this tract; thence along said centerline, North 39° 59' 08" East, 263.98 feet; thence leaving said centerline and with said Skinner lines, South 50° 00' 52" East, 363.10 feet; thence North 39° 59' 08" East, 171.00 feet; thence North 29° 42' 05" East, 279.68 feet; thence South 50° 02' 05" East, 175.77 feet; thence North 23° 00' 00" East, 328.48 feet; thence South 86° 06' 05" East, 66.89 feet; thence South 85° 38' 15" East, 292.00 feet; thence by new division line, South 40° 49' 19" West, 848.97 feet; thence South 35° 31' 36" West, 225.23 feet; thence South 36° 05' 41" West, 269.24 feet; thence South 43° 12' 11" West, 99.54 feet; thence North 46° 47' 50" West, 339.63 feet; thence North 39° 59' 08" East, 188.51 feet; thence North 50° 00' 52" West, 363.10 feet to the said centerline and the point of beginning of this parcel.

Containing 11.507 acres of land, more or less.

A plat of survey prepared by Joseph M. Allen Co. is recorded in Volume 22, Page 175 of the Butler County Engineer's Records of Land Surveys.

PARCEL III

Situate in Section 22, Town 3, Range 2, Union Township, Butler County, Ohio and being part of the property conveyed to Elsa M. Skinner by deed recorded in Deed Book 1236, Page 337 in the Butler County Recorder's Office, and being more particularly described as follows:

Commencing at the intersection of the west line of Section 22 and the half section line; thence along said half section line, South 87° 01' 55" East, 982.76 feet to the centerline of Cincinnati-Dayton Road; thence leaving said half section line and along said centerline, South 39° 59' 08" West, 861.28 feet to the westernmost corner of said Skinner lands, being the point of beginning of this tract; thence along said centerline, North 39° 59' 08" East, 198.15 feet; thence by new division line, South 50° 00' 52" East, 363.10 feet; thence South 39° 59' 08" West, 188.51 feet; thence South 46° 47' 50" East, 339.63 feet; thence North 43° 12' 11" East, 99.54 feet; thence North 36° 05' 41" East, 269.24 feet; thence North 35° 31' 36" East, 225.23 feet; thence North 40° 49' 19" East, 848.97 feet to said Skinner line; thence with said Skinner line, South 85° 38' 15" East, 802.73 feet; thence South 4° 16' 10" West, 1319.05 feet; thence South 89° 08' 10" West, 649.50 feet to the east line of Ray A. Skinner as conveyed by deed recorded in Deed Book 1475, Page 656 in the Butler County Recorder's Office; thence with said Ray Skinner line, North 7° 08' 10" East, 58.61 feet; thence North 75° 27' 20" West, 225.36 feet; thence South 6° 48' 51" West, 118.98 feet to said Elsa Skinner line; thence with said line, South 82° 52' 15" West, 530.95 feet; thence North 5° 52' 15" West, 108.95 feet; thence North 46° 47' 50" West, 1007.50 feet to the centerline of Cincinnati-Dayton Road and the point of beginning; excepting therefrom the 0.401 acres of land of Charles S. and Rosella M. Wallen as conveyed by deed recorded in Deed Book 721, Page 251 of the Butler County Recorder's Office.

Containing 41.938 acres of land, more or less.

A plat of survey prepared by Joseph M. Allen Co. is recorded in Volume 22, Page 175 of the Butler County Engineer's Records of Land Surveys.

M5610-023-000-055

Property Address: 8750 Cincinnati Dayton Road, West Chester, OH
Tax ID No.: M5610-023-000-015; -025; -055

EXHIBIT B

Legal Description of the "Restricted Area"

PARCEL I

Situated in and being in Section 22, Town 3, Range 2 and in Union Township, Butler County, Ohio, and is bounded and described as follows:

Beginning at the Northwest corner of the Southeast Quarter of said Section 22, Town 3, Range 2; thence along the north line of the southeast quarter section, South 86° 09' East, 300.40 feet to an old stone; thence North 4° 18' 45" East, 726.56 feet to an iron pipe; thence South 85° 57' 45" East, 406.26 feet to the old right of way for the C.C.C. & St. L. Railroad; thence along said old right of way line South 15° 10' 45" East, 163.00 feet to a point in the present right of way line for the C.C.C. & St. L. Railroad; thence along said present Railroad right of way line, South 11° 49' West, 1865.17 feet to an iron pipe; thence South 89° 03' West, 512.03 feet; (witnessed by an iron pipe, North 89° 03' East, 2.00 feet); thence North 3° 59' East, 1318.92 feet to an iron pipe and the point of beginning; containing 24.852 acres of land, more or less.

Excepting from the above described 24.852 acre parcel that part thereof which adjoins the centerline of Cincinnati-Dayton Road to a depth of 702.34 feet measured southeasterly from and at a right angle to the centerline of Cincinnati-Dayton Road.

PARCEL III

Situate in Section 22, Town 3, Range 2, Union Township, Butler County, Ohio and being part of the property conveyed to Elsa M. Skinner by deed recorded in Deed Book 1236, Page 337 in the Butler County Recorder's Office, and being more particularly described as follows:

Commencing at the intersection of the west line of Section 22 and the half section line; thence along said half section line, South 87° 01' 55" East, 982.76 feet to the centerline of Cincinnati-Dayton Road; thence leaving said half section line and along said centerline, South 39° 59' 08" West, 861.28 feet to the westernmost corner of said Skinner lands, being the point of beginning of this tract; thence along said centerline, North 39° 59' 08" East, 198.15 feet; thence by new division line, South 50° 00' 52" East, 363.10 feet; thence South 39° 59' 08" West, 188.51 feet; thence South 46° 47' 50" East, 339.63 feet; thence North 43° 12' 11" East, 99.54 feet; thence North 36° 05' 41" East, 269.24 feet; thence North 35° 31' 36" East, 225.23 feet; thence North 40° 49' 19" East, 848.97 feet to said Skinner line; thence with said Skinner line, South 85° 38' 15" East, 802.73 feet; thence South 4° 16' 10" West, 1319.05 feet; thence South 89° 08' 10" West, 649.50 feet to the east line of Ray A. Skinner as conveyed by deed recorded in Deed Book 1475, Page 656 in the Butler County Recorder's Office; thence with said Ray Skinner line, North 7° 08' 10" East, 58.61 feet; thence North 75° 27' 20" West, 225.36 feet; thence South 6° 48' 51" West, 118.98 feet to said Elsa Skinner line; thence with said line, South 82° 52' 15" West, 530.95 feet; thence North 5° 52' 15" West, 108.95 feet; thence North 46° 47' 50" West, 1007.50 feet to the centerline of Cincinnati-Dayton Road and the point of beginning; excepting therefrom

the 0.401 acres of land of Charles S. and Rosella M. Wallen as conveyed by deed recorded in Deed Book 721, Page 251 of the Butler County Recorder's Office.

Containing 41.938 acres of land, more or less.

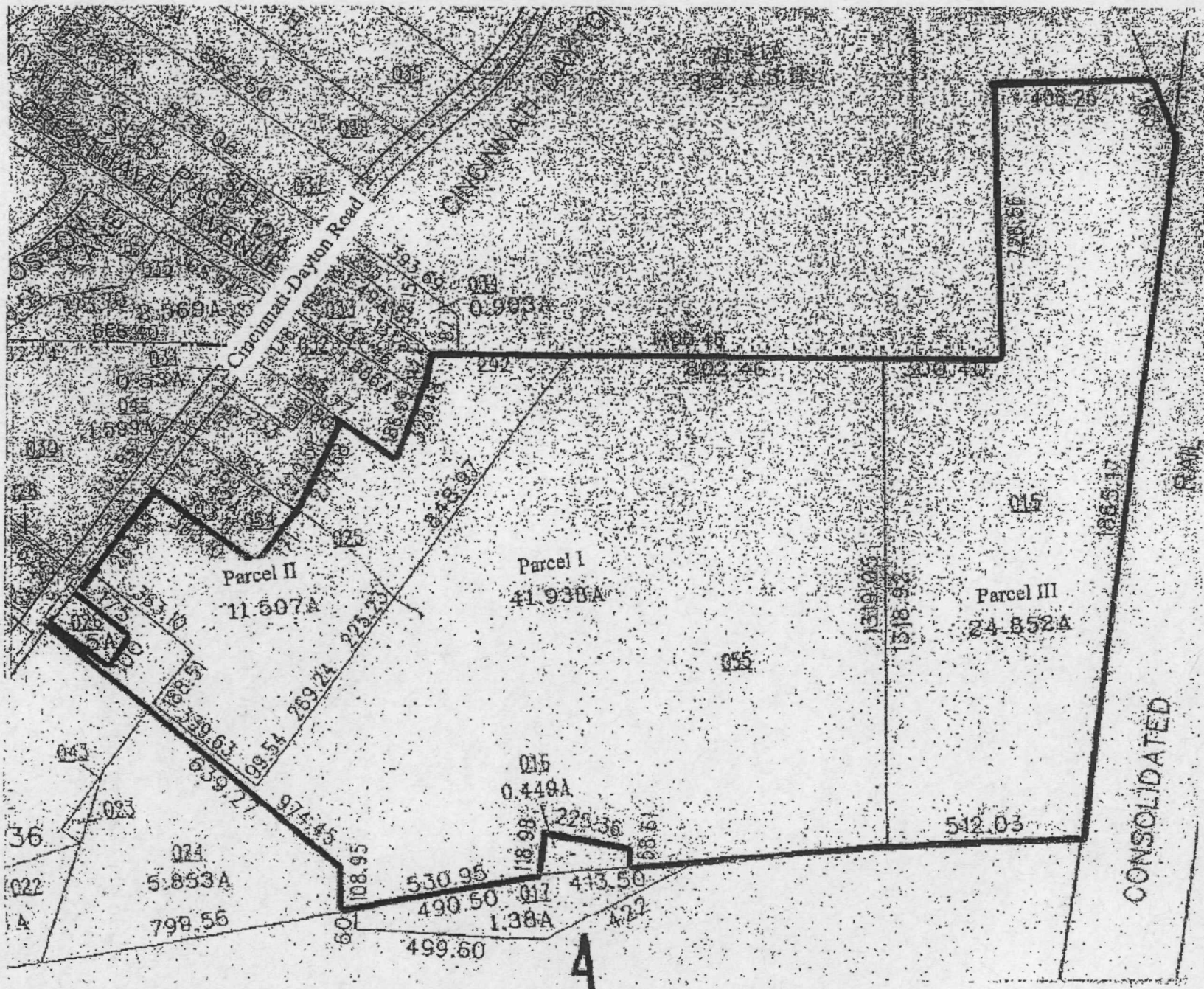
A plat of survey prepared by Joseph M. Allen Co. is recorded in Volume 22, Page 175 of the Butler County Engineer's Records of Land Surveys.

M5610-023-000-055

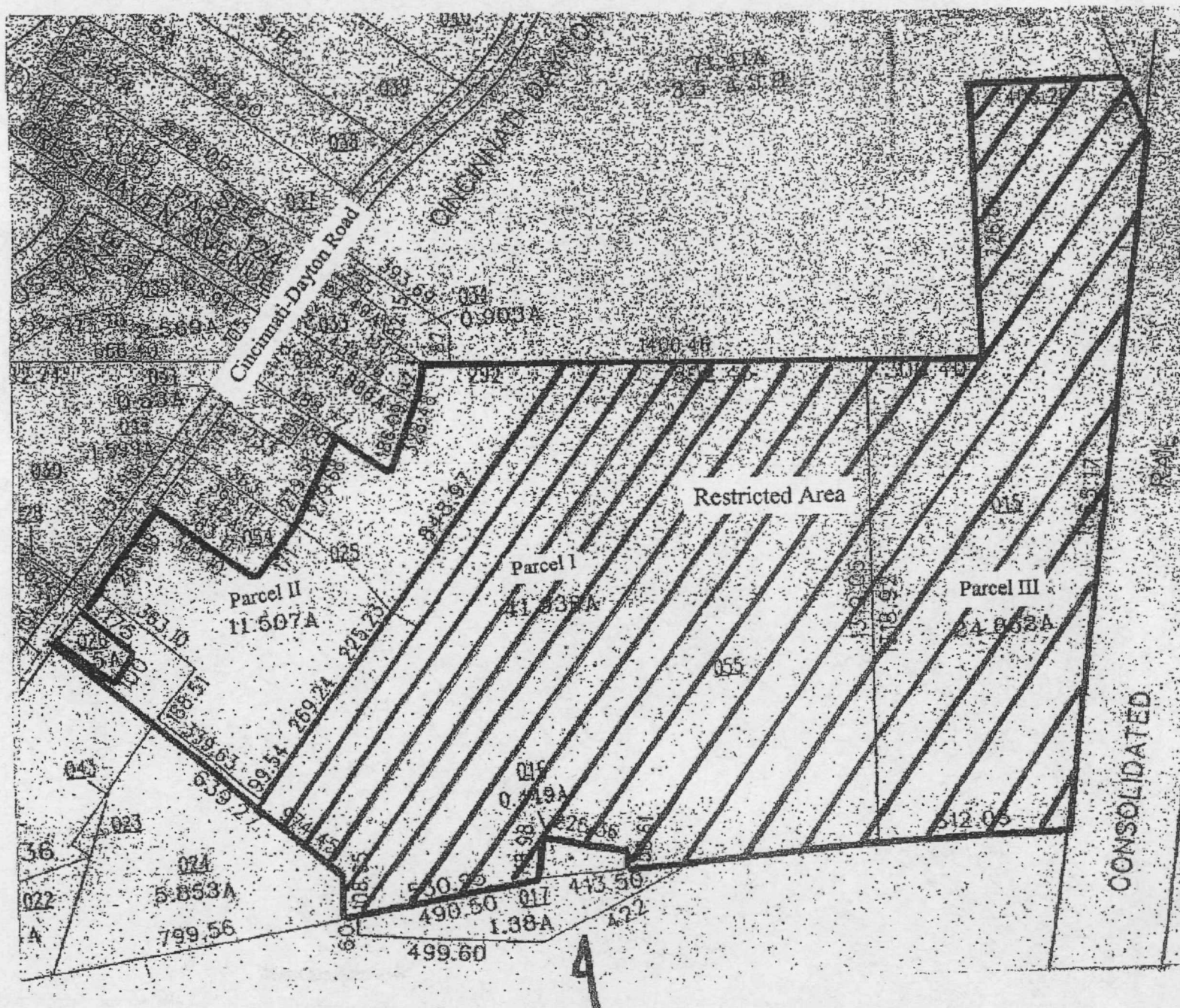
Property Address: 8750 Cincinnati Dayton Road, West Chester, OH
Tax ID No.: M5610-023-000-015; -025; -055

EXHIBIT C-1

Drawing of Site

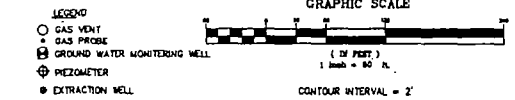


Drawing of Restriction Area



2002 10-2-9 240720000 10000 11-2-23 11 10000

Not based upon Survey



I HEREBY CERTIFY THAT THE INFORMATION SHOWN
HEREON IS BASED ON AN ACTUAL FIELD SURVEY
PERFORMED BY BURGESS & NIPLE, LTD. AND IS
TRUE AND CORRECT TO THE BEST OF MY
KNOWLEDGE AND BELIEF.

J. Fred Henwood 06.08.03
JOHN HENWOOD, P.S.
OHIO REG. SURVEYOR NO. 7660



114

E A R T H  T E C H
A TYCO INTERNATIONAL LTD. COMPANY

SKINNER LANDFILL SUPERFUND SITE
REMEDIAL ACTION COMPLETION REPORT
FINAL COVER GRADES (AS-BUILT)

Scale:
1" = 60'

RECORD
DRAWING 3

EXHIBIT D

Legal Description of 1.38-Acre Access Easement Parcel

Being part of lot number four (4) and part of Lot Number Eleven (11) in Section 22, Town 3, Range 2, in Union Township, Butler County, Ohio, and as recorded in Land Book #1, page 62, of the Butler County Ohio Recorder's Records, and more particularly described as follows:

Lying and being in Section 22, Town 3, Range 2, in Union Township, Butler County, Ohio, and beginning at the northeast corner of said lot #4, thence north 83-1/2 degrees east a distance of four hundred and thirteen and five-tenths (413.5) feet to a point, thence south 70 degrees west a distance of four hundred and twenty-two (422) feet to a point, thence south 86-1/2 degrees west a distance of two hundred and thirty nine and six-tenths (239.6) feet to a point, thence south 88 degrees west a distance of two hundred and sixty feet to a point; thence north 1/2 degree west a distance of sixty (60) feet to a point, thence north 87 degrees east a distance of four hundred and ninety and five-tenths (490.5) feet to the place of beginning, containing one and thirty-eight hundredths (1.38) acres of land; being the same premises conveyed by Anna Mae Skinner to William J. Skinner by deed dated February 14, 1938, recorded in Volume 327 page 137, Butler County, Ohio Deed Records.

EXHIBIT E

Legal Description of .449-Acre Access Easement Parcel

Situated and lying in Section 22, Town 3, Range 2, Union Township, Butler County, Ohio. Commencing at the southwest corner of Section 22, Town 3, Range 2 in Union Township, thence north 1 degree 45' east 1042.8 feet; thence north 78 degrees 00' east 1798.5 feet to a stone at the southwest corner of tract herein transferred; thence north 83 degrees 30' east 225 feet to an iron pin; thence north 1 degree 30' east 58.61 feet to an iron pipe; thence north 81 degrees 05-1/2' west 225.36 feet to a stone; thence south 2 degrees 25' west to the place of beginning, containing .449 of an acre.

EXHIBIT F

APPENDIX D

SETTLING GENERATOR/TRANSPORTER DEFENDANTS

Anchor Hocking Corporation

Chemical Leaman

The Dow Chemical Company

Ford Motor Company

Formica Corporation

Henkel Corporation

GE Aircraft Engines

General Motors Corporation

King Wrecking Company, Inc.

King Container Services, Inc.

Monsanto Company

Oxy USA Inc.

Velsicol Chemical Corporation

EXHIBIT G

Notice upon Conveyance of Site or any Portion thereof other than the Restricted Area

THE INTEREST CONVEYED HEREBY IS SUBJECT TO A CONSENT DECREE DATED APRIL 2, 2001, WHICH WAS RECORDED IN THE OFFICE OF THE BUTLER COUNTY RECORDER, OR BOOK 6658, Pages 413-613, AND WHICH RESTRICTS THE INTEREST CONVEYED AS SET FORTH IN THIS NOTICE AND AN ENVIRONMENTAL COVENANT, DATED _____, 200_, RECORDED IN THE DEED OR OFFICIAL RECORDS OF THE BUTLER COUNTY RECORDER ON _____, 200_, in BOOK _____, Page _____, THE ENVIRONMENTAL COVENANT CONTAINS THE FOLLOWING ACTIVITY AND USE LIMITATIONS AND ACCESS RIGHTS:

Activity and Use Limitations on the Site.

- (a) The Site shall not be used in any manner that would interfere with or adversely affect the integrity or protectiveness of the remedial action which has been implemented or which will be implemented pursuant to the Consent Decree unless the written consent of the EPA to such use is first obtained. No person shall bring any Waste Material or Scrap Metal onto the Site, except in accordance with any federal, state or local permit or the Consent Decree.
- (b) There shall be no consumptive use of Site groundwater, either on or off the Site.

Access to the Site. Pursuant to Section X of the Consent Decree and the Environmental Covenant, EPA and the Settling Generator/Transporter Defendants, their successors and assigns, and their respective officers, employees, agents, contractors and other invitees (collectively, "Access Grantees") shall have an unrestricted right of access to the Site to undertake the Permitted Uses described below and, in connection therewith, to use all roads, drives and paths, paved or unpaved, located on the Site or off the Site ("off-site") and the "Access Roads." The Site and the Access Roads are shown on the Survey, which is recorded in Volume 22, Page 175 of the Butler County Engineer's Records of Land Surveys. The off-site Access Roads referred to in the preceding sentence are located on the parcels described on Exhibits D and E of the Environmental Covenant referred to above, from which this Notice proceeds. The right of access set forth above shall be irrevocable while the Environmental Covenant remains in full force and effect. The Settling Generator/Transporter Defendants are named on Exhibit F of the Environmental Covenant.

Permitted Uses. The right of access granted under the Environmental Covenant shall provide Access Grantees with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to the Consent Decree or the purchase of the Site, including, but not limited to, the following activities:

- a) Monitoring the Work;

- b) Verifying any data or information submitted to the United States or the State;
- c) Conducting investigations relating to contamination at or near the Site;
- d) Obtaining samples;
- e) Assessing the need for, planning, or implementing response actions at or near the Site;
- f) Implementing the Work pursuant to the Consent Decree;
- g) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Owner or her agents, consistent with Section XXXI (Access to Information) of the Consent Decree;
- h) Assessing Settling Generator/Transporter Defendants' compliance with the Consent Decree;
- i) Determining whether the Site or other property is being used in a manner that is prohibited or restricted or that may need to be prohibited or restricted by or pursuant to the Consent Decree; and
- j) Surveying and making soil tests of the Site, locating utility lines, and assessing the obligations which may be required of a Prospective Purchaser (as defined in the Consent Decree) by EPA under the Consent Decree.

EXHIBIT H

Notice upon Conveyance of Restricted Area or any Portion thereof

THE INTEREST CONVEYED HEREBY IS SUBJECT TO A CONSENT DECREE DATED APRIL 2, 2001, WHICH WAS RECORDED IN THE OFFICE OF THE BUTLER COUNTY RECORDER, OR BOOK 6658, Pages 413-613, AND WHICH RESTRICTS THE INTEREST CONVEYED AS SET FORTH IN THIS NOTICE, AND AN ENVIRONMENTAL COVENANT, DATED _____, 200_, RECORDED IN THE OFFICIAL RECORDS OF THE BUTLER COUNTY RECORDER ON _____, 200_, in BOOK _____, Page _____, THE ENVIRONMENTAL COVENANT CONTAINS THE FOLLOWING ACTIVITY AND USE LIMITATIONS AND ACCESS RIGHTS:

Activity and Use Limitations on the Restricted Area.

(a) The Restricted Area shall not be used in any manner that would interfere with or adversely affect the integrity or protectiveness of the remedial action which has been implemented or which will be implemented pursuant to the Consent Decree unless the written consent of the EPA to such use is first obtained. There shall be no drilling, digging, building, or the installation, construction, removal or use of any buildings, wells, pipes, roads, ditches, or any other structures on the Restricted Area unless the written consent of EPA to such use or activity is first obtained. No person shall bring any Waste Material or Scrap Metal onto the Restricted Area, except in accordance with any federal, state or local permit or the Consent Decree.

(b) The Restricted Area, shall be used solely for Commercial/Industrial Activities only in accordance with an EPA-approved plan for re-use of the Restricted Area as required under Paragraph 5(a) of the Environmental Covenant and the Restricted Area shall not be used for Residential and Other Prohibited Activities. The Restricted Area has been remediated only for commercial/industrial uses. The term "Commercial/Industrial Activities" includes: (i) wholesale and retail sales and service activities including, but not limited to retail stores, and automotive fuel, sales and service facilities; (ii) governmental, administrative and general office activities, (iii) manufacturing, processing, and warehousing activities, including, but not limited to, production, storage and sales of durable goods and other non-food chain products; and (iv) activities which are consistent with or similar to the above listed activities; together with related parking areas and driveways, but excludes Residential and Other Prohibited Activities. The term "Residential and Other Prohibited Activities" includes: (i) single and multi-family dwellings and transient residential units; (ii) day care centers and preschools; (iii) public and private elementary and secondary schools; (iv) hospitals, assisted living facilities and other extended care medical facilities and medical and dental offices; (v) food preparation and food service facilities, including food stores, restaurants, banquet

facilities and other food preparation or sales facilities; and (vi) indoor or outdoor entertainment and recreational facilities.

(c) There shall be no consumptive use of Restricted Area groundwater, either on or off the Restricted Area.

Requirements for Notice to EPA Following Transfer of a Specified Interest in, or Concerning Proposed Changes in the Use of, Applications for Building Permits for, or Proposals for any Site Work Affecting Contamination on, the Restricted Area. No transferee in interest may make changes in the use of the Restricted Area, or may make applications for building permits for, or proposals for any work in the Restricted Area without first providing notice to EPA and obtaining any approvals or consents thereto which are required under Sections VII, VIII, X or XIII of the Consent Decree.

Access to the Restricted Area. Pursuant to Section X of the Consent Decree and the Environmental Covenant, EPA and the Settling Generator/Transporter Defendants, their successors and assigns, and their respective officers, employees, agents, contractors and other invitees (collectively, "Access Grantees") shall have an unrestricted right of access to the Restricted Area to undertake the Permitted Uses described below and, in connection therewith, to use all roads, drives and paths, paved or unpaved, located on the Restricted Area or off the Restricted ("off-site") and the Access Roads. The Site and the Access Roads are shown on the Survey which is recorded in Volume 22, Page 175 of the Butler County Engineer's Records of Land Surveys. The right of access granted under this Paragraph shall be irrevocable while this Environmental Covenant remains in full force and effect. The Settling Generator/Transporter Defendants are named on Exhibit F of the Environmental Covenant.

Permitted Uses. The right of access granted under the Environmental Covenant shall provide Access Grantees with access at all reasonable times to the Restricted Area, or such other property, for the purpose of conducting any activity related to the Consent Decree or the purchase of the Restricted Area, including, but not limited to, the following activities:

- a) Monitoring the Work;
- b) Verifying any data or information submitted to the United States or the State;
- c) Conducting investigations relating to contamination at or near the Restricted Area;
- d) Obtaining samples;
- e) Assessing the need for, planning, or implementing response actions at or near the Restricted Area;
- f) Implementing the Work pursuant to the Consent Decree;

- g) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Owner or her agents, consistent with Section XXXI (Access to Information) of the Consent Decree;
- h) Assessing Settling Generator/Transporter Defendants' compliance with the Consent Decree;
- i) Determining whether the Restricted Area or other property is being used in a manner that is prohibited or restricted or that may need to be prohibited or restricted by or pursuant to the Consent Decree; and
- j) Surveying and making soil tests of the Restricted Area, locating utility lines, and assessing the obligations which may be required of a Prospective Purchaser (as defined in the Consent Decree) by EPA under the Consent Decree.

Attachment 4



**EPA To Review
Skinner Landfill Superfund Site
West Chester, Ohio**

The U.S. Environmental Protection Agency is conducting a five-year review of the Skinner Landfill Superfund site. It is located in south of the intersection of I-75 and Cincinnati-Dayton Road in West Chester.

The Superfund law requires regular checkups of sites that have been cleaned up or where cleanup has been ongoing for at least five years – with waste managed on-site – to make sure the cleanup continues to protect people and the environment. This is the fourth five-year review of this site.

EPA implemented several actions to clean up the groundwater contaminated with volatile organic compounds, heavy metals, PCBs and pesticides. These cleanup actions included groundwater interception trenches, an underground barrier, landfill cap, and long-term (30 years) operation and maintenance.

More information is available at the Middletown Public Library System, West Chester Branch, 7900 Cox Road, West Chester, and at www.epa.gov/region5/cleanup/skinner. The review should be completed by August 2014.

The five-year review is an opportunity for you to tell EPA about site conditions and any concerns you have. Contact:

Susan Pastor
Community Involvement Coordinator
pastor.susan@epa.gov
312-353-1325

Scott Hansen
Remedial Project Manager
hansen.scott@epa.gov
312-886-1999

You may also call toll-free at 800-621-8431, 9:30 a.m. – 5:30 p.m., weekdays.

ELECTION 2013

Results



Casting his vote in Fairfield

Vinay Satyav votes at the Fairfield Municipal Building last Tuesday. GREG ENCH/STAFF

Butler State of results reporting (all elections reported)	Catherine Stoker (D) 6,278 Matthew King 8,411	YES 6,400 NO 8,411
OFFICES		
Fairfield Mayor		
Steve Miller 4,886		
Edna Smith 3,110		
Fairfield Council		
Dist 1		
Paul Cernich 4,917		
Mike Branger 4,361		
Paul Winters 4,361		
Donald Kishner 4,361		
Joseph Branger 4,361		
Hamilton Mayor		
Paul Miller (D) 3,708		
Garth Frazier 3,680		
Hamilton Council		
Dist 1		
David Pomeroy (D) 3,708		
Steve Pomeroy 3,680		
Ann Mott (D) 3,680		
Jeffrey Leland (D) 3,680		
Trenton Council		
Dist 1		
John Winters (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
Fairfield Twp. Trustee		
Dist 1		
Stephen Hartman (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
Hanover Twp. Trustee		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
Liberty Twp. Trustee		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
Madison Twp. Trustee		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
Morgan Twp. Fiscal Officer		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
Oxford Twp. Trustee		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
Ross Twp. Fiscal Officer		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
St. Clair Twp. Trustee		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
St. Clair Twp. Trustee		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		
West Chester Twp. Trustee		
Dist 1		
Stephen Johnson (D) 3,708		
John Winters (D) 3,680		
John Winters (D) 3,680		
John Winters (D) 3,680		

Wayne School Board		
Dist 1		
Paul Cernich (D) 4,917		
Mike Branger 4,361		
Paul Winters 4,361		
Donald Kishner 4,361		
Joseph Branger 4,361		
Washington Twp. Fire and EMS levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79
Franklin School levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79
ISSUES		
Lebanon Fire and EMS levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79
Harveysburg operating levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79
Harveysburg Police levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79
Madison Police levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79
Deerfield Twp. Parks levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79
Hamilton Twp. Parks levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79
Harlan Twp. Fire and EMS levy		
Issue 11, additional 1 mill		
YES 1,136		118
NO 801		79

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McCracken & Martin
Attorneys at Law
737-8000

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West Chester, Ohio

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More information is available at the Middletown Public Library System, West Chester Branch, 7900 Cox Road, West Chester; West Chester Township, 9113 Cincinnati-Dayton Road; and at www.epa.gov/region5/cleanup/index.

The review should be completed by August 2014.

The five-year review is an opportunity for you to tell EPA about site conditions and any concerns you have. Contact:

Steve Foster Community Involvement steve.foster@epa.gov 312-856-1999
Scott Hansen Remedial Project Manager hansen.scott@epa.gov 312-856-1999

You may also call toll-free at 800-421-8431, 9:30 a.m. - 5:30 p.m., weekdays.

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McCullough-Hyde Memorial Hospital is pleased to welcome

BRYAN MCCULLOUGH, D.O.

Orthopaedics & Sports Medicine

Bryan McCullough, D.O., received his Bachelor of Arts from Miami University, and his Doctorate in Osteopathic Medicine from Ohio University College of Osteopathic Medicine, Athens, OH.

Dr. McCullough did his internship and residency training at St. Vincent Mercy Medical Center, Toledo, OH, and a Fellowship at Taos Orthopaedic Institute of Sports Medicine, Taos, NM.

Dr. McCullough is associated with Pinnacle Orthopaedics and Sports Medicine, a service of McCullough-Hyde Memorial Hospital.

Dr. McCullough is accepting new patients and most insurances accepted. He will be seeing patients at Oxford, Ross and Hamilton. To schedule an appointment, please call (513) 856-5971

McCullough-Hyde Memorial Hospital
110 N. Poplar Street
Oxford, OH 45056
513/523-2111 www.mhnm.org

Attachment 5

**Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for GW-07R**

Compound	Sampling Results								TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Aug-12	Mar-13	Sep-13		
Inorganics - Metals (Dissolved)¹⁴	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	69 B	200 U	150 B	200 U	200 U	100 J	2.78 J	50 U		200
Antimony	60 U	8.8 B	60 U	60 U	60 U	60 U	1 U	0.58 J	60	60
Arsenic	4.2 B	8.1 B	10 U	10 U	10 U	6.4 J	0.3 J	0.39 J	20	10
Barium	41 B	75 BJ	47 B	49 B	53 J	85 J	49.9	58	1,000	200
Beryllium	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5	5
Cadmium	5.0 U	0.51 B	5.0 U	5.0 U	0.12 J	5.0 U	0.078 J	0.065 J	5	5
Calcium	178,000	224,000 J	184,000 J	192,000	179,000	195,000	170,000	210,000		5,000
Chromium	10 U	10 U	10 U	10 U	10 U	10 U	0.33 J	0.79 J	11	10
Cobalt	0.55 B	2.8 B	0.84 B	2.0 B	50 U	1.7 J	0.27 J	0.41 J		50
Copper	7.5 B	25 U	5.5 B	9.0 B	4.6 J	2.0 J	1.98	1.3	25	25
Iron	100 U	3,670	100 U	2,500	100 U	1,380	379	11	7,000	100
Lead	2.8 J	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	0.094 J	1.1	4.2	3
Magnesium	31,700	38,500 J	32,200	35,200	32,000	34,600	31,400	36,000		5,000
Manganese	100	1,650	150	1,650	43 J	1,260	13.4	540		15
Mercury	0.20 U	0.20 U	0.20 U	0.08 B	0.14 J	0.09 J	0.20 U	0.20 U	0.2	0.2
Nickel	1.2 B	4.2 B	40 U	2.0 B	40 U	40 U	5.43	5.1	96	40
Potassium	1,000 B	1,970 B	1,600 B	2,270 B	1,890 J	2,530 J	1,920	2,600		5,000
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.32 J	1.0 U	8.5	5
Silver	10 U	10 U	10 U	10 U	10 U	0.74 U	1.0 U	0.20 U	10	10
Sodium	10,900	16,200	10,200	12,900	7,590	9,940	7,360	10,000		5,000
Thallium	10 U	4.8 BJ	10 U	10 U	10 U	4.3 J	0.091 J	0.061 J	40	10
Vanadium	12 J	6.4 B	6.0 B	11 B	4.0 J	3.7 J	0.3 J	0.28 J		50
Zinc	20 U	20 U	5.2 B	20 U	20 U	20 U	10.2 J	5.2 J	86	20
Inorganics - Metals and Cyanide (Total)										
Aluminum	484	200 U	53 B	86 BJ	79 J	200 U	161	27 J		
Antimony	60 U	60 U	60 U	60 U	60 U	60 U	1.0 U	0.75 U		
Arsenic	3.9 B	9.5 B	10 U	10 U	10 U	7.1 J	0.44 J	0.40 J		
Barium	150 B	70 BJ	54 B	58 B	57 J	76 J	54.7	56		
Beryllium	0.13 B	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U		
Cadmium	5.0 U	0.58 B	5.0 U	5.0 U	0.15 J	5.0 U	0.064 J	0.085 J		
Calcium	189,000	222,000 J	189,000 J	200,000	174,000	202,000	163,000	210,000		
Chromium	10 U	10 U	0.48 B	10 U	10 U	10 U	0.48 J	0.85 U		
Cobalt	2.7 B	3.1 B	50 U	1.1 B	50 U	1.9 J	0.5 J	0.65 J		
Copper	22 B	23 B	8.0 B	11 B	7.5 J	25 U	2.43	1.3 U		
Cyanide	5.0	5.0 U	5.0 U	1.3 B	5.0 U	5.0 U	25 U	1.32 J	10.0	10.0
Iron	8,300	2,280	120	2,760	220	1,240 J	771	120		
Lead	10 J	2.6 B	3.0 U	3.0 U	3.0 U	3.0 UJ	0.62 J	0.17 J		
Magnesium	38,200	37,300 J	32,600	35,300	31,300	35,900	30,000	37,000		
Manganese	200	1,530	170	1,330	54	1,520	44.6	1,200		
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.08 J	0.20 U		
Nickel	7.5 B	4.8 B	40 U	2.6 B	40 U	40 U	1.83	4.5		
Potassium	2,240 B	1,900 B	1,800 B	2,610 B	1,920 J	2,650 J	1,880	2,500		
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.26 J	1.0 U		
Silver	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	0.20 U		
Sodium	10,400	15,700	10,900	13,200	7,380	10,200	6,770	10,000		
Thallium	10 U	5.9 BJ	10 U	10 U	10 U	10 U	1.0 U	0.044 J		
Vanadium	18 B	5.9 B	7.2 B	12 B	4.7 J	2.7 J	0.42 J	0.17 J		
Zinc	28	42	12 B	10 B	20 U	20 U	8.66 J	10.00		
Volatile Organic Compounds (VOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Pesticides / PCBs	BRL	NS	BRL	NS	BRL	NS	BRL	NS		

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or UJ
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.
- 17) NS-no sampling required for that event

**Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for GW-26**

Compound	Sampling Results								TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Aug-12	Mar-13	Sep-13		
Inorganics - Metals (Dissolved)¹⁴	Semi-annual	Semi-annual	Semi-annual	Semi-annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	470	200	150 B	200 U	200 U	140 J	4.99 J	50 U		200
Antimony	60 U	60	60 U	60 U	60 U	60 U	1.00 U	1.0 U	60	60
Arsenic	10 U	3.8	10 U	10 U	10 U	10 U	0.54 J	0.37 J	20	10
Barium	300	600 J	830	470	570	700	437	770	1,000	200
Beryllium	5.0 UJ	5.0	5.0 U	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U	5	5
Cadmium	5.0 U	0.48	5.0 U	0.48 B	0.63 J	5.0 U	1.00 U	0.20 U	5	5
Calcium	72,000	61,600 J	68,000 J	56,900	71,000	65,600	64,000	63,000		5,000
Chromium	10 U	10	0.43 B	10 U	10 U	10 U	0.16 J	0.72 J	11	10
Cobalt	0.92 B	1.7	50 U	50 U	50 U	50 U	0.61 J	0.42 J		50
Copper	8.6 B	25	7.2 B	9.1 B	4.8 J	25 U	2.11	0.65 J	25	25
Iron	100 U	180	68 B	140	92 J	770 J	196	290	7,000	100
Lead	3.0 J	3.0	3.0 U	3.0 U	3.0 U	3.0 UJ	0.052 J	1.0 U	4.2	3
Magnesium	38,100	32,300 J	36,300	37,400	38,500	34,900	37,600	35,000		5,000
Manganese	52	92	80	75	64 J	66	59.7	49		15
Mercury	0.20 U	0.20	0.20 U	0.20 U	0.14 J	0.20 U	0.09 J	0.20 U	0.2	0.2
Nickel	40 U	3.6	40 U	40 U	1.1 J	40 U	4.04	1.2	96	40
Potassium	16,300	17,600	19,800	19,200	20,300	18,800	18,100	20,000		5,000
Selenium	5.0 U	5.0	5.0 U	5.0 U	5.0 U	5.0 UJ	2.34	1.0 U	8.5	5
Silver	10 U	10	10 U	10 U	10 U	10 U	1.00 U	0.20 U	10	10
Sodium	144,000	189,000	185,000	184,000	185,000	188,000	169,000	200,000		5,000
Thallium	10 U	4.5 J	10 U	10 U	10 U	10 U	1.00 U	1.0 U	40	10
Vanadium	13 J	5.7	7.1 B	13 B	4.1 J	2.7 J	0.13 J	0.14 J		50
Zinc	20 U	20	20 U	20 U	20 U	20 U	6.22 J	10.00	86	20
Inorganics - Metals and Cyanide (Total)										
Aluminum	390	520	64 B	43 BJ	130 J	200 U	92.1	28.0 J		
Antimony	60 U	60	60 U	60 U	60 U	60 U	1.00 U	0.28 U		
Arsenic	10 U	11	10 U	10 U	10 U	7.4 J	0.57 J	0.40 J		
Barium	300	620 EJ	790	450	540	720	452	800		
Beryllium	5.0 UJ	5.0	5.0 U	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U		
Cadmium	5.0 U	0.45	5.0 U	5.0 U	0.67 J	5.0 U	1.00 U	0.06 J		
Calcium	77,800	67,200 J	64,400 J	66,300	67,800	66,100	64,500	61,000		
Chromium	10 U	10	0.64 B	10 U	0.52 J	10 U	0.39 J	1.1 U		
Cobalt	50 U	3.2	50 U	50 U	50 U	50 U	0.65 J	0.52 J		
Copper	17 B	25	7.9 B	9.5 B	4.7 J	25 U	1.48	3.0		
Cyanide	7.4	5.0 U	5.0 U	0.80 B	5.0 U	NS	5.0 U	1.00 J	10	10
Iron	270	2,220	240	410	470	440 J	531	580		
Lead	4.1 J	3.0	3.0 U	3.0 U	3.0 U	3.0 UJ	0.36 J	0.34 J		
Magnesium	40,600	32,800 J	34,000	35,900	36,400	35,600	37,900	34,000		
Manganese	55.0	130	61	71	65	6.3	77.4	51		
Mercury	0.20 U	0.20	0.20 U	0.20 U	0.20 U	0.08 J	0.20 U	0.20 U		
Nickel	1.7 B	5.9	40 U	40 U	40 U	40 U	1.06	1.9 U		
Potassium	17,400	17,700	19,000	18,500	19,200	18,900	18,800	20,000		
Selenium	5.0 U	5.0	5.0 U	5.0 U	5.0 U	5.0 U	1.45	1.0 U		
Silver	10 U	10	10 U	10 U	10 U	0.85 J	1.00 U	0.20 U		
Sodium	154,000	187,000	184,000	179,000	177,000	190,000	170,000	200,000		
Thallium	10 U	2.1 J	10 U	10 U	10 U	4.2 J	1.00 U	1.0 U		
Vanadium	12 J	6.9	6.4 B	12 B	5.7 J	4 J	0.19 J	0.13 J		
Zinc	20 U	20	20 U	20 U	20 U	20 U	2.62 J	5.50 J		
Volatile Organic Compounds (VOCs)	BRL	Not sampled	BRL	Not sampled	BRL	NS	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	Not Sampled	BRL	Not sampled	BRL	NS	BRL	NS		
Pesticides / PCBs	BRL	Not Sampled	BRL	Not sampled	BRL	NS	BRL	NS		

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or UJ
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.

**Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for GW-58**

Compound	Sampling Results								TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Aug-12	Mar-13	Sep-13		
Inorganics - Metals (Dissolved)¹⁴	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	59 B	200 U	200 U	200 U	200 U	650	20.0 U	50 U		200
Antimony	60 U	3.7 B	60 U	60 U	60 U	60 U	1.00 U	1.0 U	60	60
Arsenic	3.6 J	4.4 B	3.8 J	10 U	10 U	10 U	1.00 U	0.18 J	20	10
Barium	110 B	110 BJ	100 B	120 B	95 J	120 J	97.5	100	1,000	200
Beryllium	0.75 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U	5	5
Cadmium	5.0 U	0.28 B	0.12 B	5.0 U	0.19 J	0.19 U	1.00 U	0.20 U	5	5
Calcium	98,600	96,300 J	89,500 J	83,600	85,600	103,000	93,100	93,000		5,000
Chromium	10 U	10 U	10 U	10 U	0.37 J	10 U	0.078 J	0.79 J	11	10
Cobalt	0.93 B	50 U	50 U	50 U	50 U	50 U	0.18 J	1.0 U		50
Copper	25 U	25 U	25 U	9.3 B	5.3 J	4.8 J	1.24	1.1	25	25
Iron	70 B	310	100 U	100 U	100 U	1,710 J	196	8.2 J	7,000	100
Lead	3.0 U	3.0 U	3.0 UJ	3.0 U	3.0 U	3.0 UJ	0.037 J	1.0 U	4.2	3
Magnesium	30,100	27,200 J	25,100	29,200	23,100	29,300	30,100	29,000		5,000
Manganese	62 J	3.4 B	9.5 B	3.4 B	21 J	51	8.98	4.4		15
Mercury	0.08 B	0.20 U	0.12 B	0.20 U	0.11 J	0.08 J	0.20 U	0.20 U	0.2	0.2
Nickel	3.1 B	1.7 B	7.2 B	40 U	40 U	40 U	3.99	1.2	96	40
Potassium	3,740 B	3,070 B	5,330	3,700 B	3,390 J	3,140 J	3,390	3,300		5,000
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.20 J	1.0 U	8.5	5
Silver	1.5 B	10 U	10 U	10 U	10 U	10 U	1.00 U	0.20 U	10	10
Sodium	28,200	25,000	23,600	25,500	40,700	22,300	26,600	25,000		5,000
Thallium	5.7 B	4.8 BJ	10 UJ	10 U	10 U	10 U	1.00 U	1.0 U	40	10
Vanadium	11 J	4.3 B	1.2 B	11 B	3.7 J	3.6 J	0.16 J	1.0 U		50
Zinc	20 U	7.5 B	20 U	20 U	20 U	20 U	4.57 J	5.5 J	86	20
Inorganics - Metals and Cyanide (Total)										
Aluminum	1,090	200 B	1,180	1,580	5,580 J	200 U	1,040	1,300		
Antimony	60 U	3.7 B	60 U	60 U	60 U	60 U	1.00 U	1.0 U		
Arsenic	10 UJ	4.3 B	3.7 J	10 U	4.2 J	10 U	1.11	1.40		
Barium	130 B	110 BJ	120 B	120 B	160 J	120 J	118	110		
Beryllium	5.0 UJ	5.0 U	5.0 U	0.14 B	0.3 J	5.0 U	0.076 J	1.0 U		
Cadmium	5.0 U	0.19 B	0.29 B	5.0 U	0.46 J	5.0 U	0.075 J	0.039 J		
Calcium	112,000	96,300 J	99,400 J	106,000	132,000	102,000	103,000	100,000		
Chromium	10 U	10 U	10 U	2.6 B	11 J	10 U	2.46	3.2 U		
Cobalt	1.3 B	1.2 B	1.1 B	0.68 B	5.2 J	50 U	1.45	1.2		
Copper	2.2 B	1.3 B	2.5 B	12 B	17 J	25 U	4.18	6.1		
Cyanide	5.0 U	5.0 U	5.0 U	0.7 B	6.0 J	NS	25 U	1.08 J	10	10
Iron	2,780	420	3,420	2,920	14,200	100 UJ	3,170	2,700		
Lead	2.6 B	3.0 U	3.1 J	2.8 B	9.2	3.0 UJ	2.66	1.6		
Magnesium	32,400	27,100 J	27,500	30,700	34,200	29,500	31,800	32,000		
Manganese	86 J	19	96	120	400	1.9 J	153	80		
Mercury	0.20 U	0.2 U	0.14 B	0.1 B	0.2 U	0.2 U	0.20 U	0.20 U		
Nickel	4.1 B	3.1 B	10 B	13 B	13 J	40 U	4.00	3.6 U		
Potassium	3,740 B	2,810 B	5,600	4,090 B	4,990 J	3,280 J	3,600	3,700		
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.16 J	0.32 U		
Silver	10 U	10 U	10 U	10 U	10 U	10 U	1.00 U	0.20 U		
Sodium	26,600	23,300	23,000	24,400	49,100	23,800	25,600	24,000		
Thallium	2.7 B	2.0 BJ	10 UJ	10 U	10 U	10 U	0.063 J	0.050 J		
Vanadium	11 J	5.5 B	3.6 B	13 B	14 J	1.3 J	2.17	2.7		
Zinc	8.2 B	6.6 B	4.7 B	27	35	20	11.1 J	15		
Volatile Organic Compounds (VOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Pesticides / PCBs	BRL	NS	BRL	NS	BRL	NS	BRL	NS		

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or U.
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.
- 17) NS-no sampling required for that event

Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for GW-59

Compound	Sampling Results								TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Aug-12	Mar-13	Sep-13		
Inorganics - Metals (Dissolved)¹⁴	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	50 B	120 B	200 U	32 BJ	200 U	200 U	18 J	50 U		200
Antimony	60 U	60 U	60 U	60 U	60 U	60 U	1.00 U	1.0 U	60	60
Arsenic	5.1 B	6.8 B	10 U	10 U	10 U	10 U	0.11 J	1.0 U	20	10
Barium	28 B	41 B	38 B	48 B	37 J	48 J	30.8	43.0	1,000	200
Beryllium	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U	5	5
Cadmium	5.0 U	0.44 B	5.0 U	5.0 U	0.13 J	5.0 U	1.00 U	0.20 U	5	5
Calcium	159,000	179,000 J	162,000 J	167,000	167,000	178,000	137,000	150,000		5,000
Chromium	10 U	10 U	10 U	10 U	10 U	10 U	0.16 J	0.85 J	11	10
Cobalt	50 U	1.9 B	50 U	50 U	50 U	50 U	0.21 J	0.072 J		50
Copper	7.0 B	25 U	25 U	10 B	4.2 J	25 U	1.84 J	2.7	25	25
Iron	100 U	410	100 U	100 U	100 U	100 UJ	305	10 U	7,000	100
Lead	2.9 J	3.0 U	2.4 J	3.0 U	3.0 U	3.0 UJ	0.068 J	1.0 U	4.2	3
Magnesium	26,200	34,500 J	29,700	38,700	28,400	34,700	21,600	26,000		5,000
Manganese	15 U	34	2.3 B	2.5 B	15 UJ	23	2.49 J	4.3		15
Mercury	0.12 B	0.20 U	0.13 B	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2	0.2
Nickel	1.2 B	4.4 B	14 B	40 U	40 U	40 U	4.81 J	2.0	96	40
Potassium	11,100	13,800	15,700	16,800	13,300	16,300	7,310	16,000		5,000
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.11 J	1.0 U	8.5	5
Silver	10 U	10 U	10 U	10 U	10 U	0.67 J	1.00 U	0.20 U	10	10
Sodium	46,600	81,700	62,700	91,200	50,700	66,800	22,300	37,000		5,000
Thallium	10 U	5.2 BJ	10 UJ	10 U	10 U	10 U	1.00 U	1.0 U	40	10
Vanadium	11 J	6 B	1.8 B	12 B	3.8 J	3.9 J	0.11 J	1.0 U		50
Zinc	20 U	20 U	20 U	20 U	20 U	20 U	5.62 J	5.5 J	86	20
Inorganics - Metals and Cyanide (Total)										
Aluminum	82 B	200 U	200 U	43 B	200 U	59 J	344 J	490		
Antimony	60 U	3.7 B	4.7 B	60 U	60 U	60 U	1.00 U	1.0 U		
Arsenic	10 U	8.5 B	10 U	10 U	10 U	5.6 J	0.56 J	0.86 J		
Barium	28 B	38 BJ	45 B	48 B	43 J	38 J	42	47		
Beryllium	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U		
Cadmium	5.0 U	0.46 B	5.0 U	5.0 U	0.12 J	5.0 U	0.026 J	0.045 J		
Calcium	158,000	180,000 J	173,000 J	186,000	173,000	160,000	143,000	160,000		
Chromium	10 U	10 U	10 U	0.36 B	10 UJ	10 U	1.25 J	2.4 U		
Cobalt	50 U	1.5 B	50 U	50 U	50 U	1.0 J	0.56 J	0.69 J		
Copper	7.3 B	25 U	25 U	11 B	4.3 J	2.5 J	1.84 J	2.8 U		
Cyanide	5.0 U	2.7 B	0.60 B	1.2 B	1.6 J	NS	25 U	5.00 U	10	10
Iron	30 B	230	100 UJ	48 B	100 U	130 J	1,250 J	1,400		
Lead	2.1 J	3.0 U	1.6 J	3.0 U	3.0 U	3.0 U	0.92 J	1.1		
Magnesium	25,100	34,800 J	28,100	38,100	24,900	29,900	22,200	29,000		
Manganese	6.0 B	16	5.0 J	12 B	4.6 J	19	67.6 J	89		
Mercury	0.20 U	0.20 U	0.15 B	0.20 U	0.20 U	0.20 U	0.07 J	0.20 U		
Nickel	40 U	3.7 B	15 B	40 U	40 U	40 U	2.58 J	3.2 U		
Potassium	9,920	14,300	16,000	17,400	9,100	17,500	8,070	16,000		
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.17 J	1.0 U		
Silver	10 U	10 U	10 U	10 U	10 U	10 U	1.00 U	0.20 U		
Sodium	41,800	81,800	51,700	89,700	28,700	55,100	22,400	44,000		
Thallium	10 U	5.7 BJ	10 UJ	10 U	10 U	10 U	0.078 J	0.035 J		
Vanadium	8 J	6.4 B	1.0 B	12 B	4.2 J	2.9 J	0.65 J	1.1		
Zinc	20 U	20 U	20 U	20 U	20 U	20 U	5.91 J	11		
Volatile Organic Compounds (VOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Pesticides / PCBs	BRL	NS	BRL	NS	BRL	NS		NS		
Endosulfan II							0.110			

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or UJ
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- * Field duplicate value of 2.8 was below Trigger Level.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.
- 17) NS-no sampling required for that event

**Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for GW-61**

Compound	Sampling Results								TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Aug-12	Mar-13	Sep-13		
Inorganics - Metals (Dissolved)¹⁴	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	200 U	200 U	200 U	36 BJ	200 U	290 J	3.64 J	50 U		200
Antimony	60 U	9.3 B	60 U	5.2 B	60 U	60 U	1.00 U	0.73 J	60	60
Arsenic	10 U	12	4.8 J	10 U	10 U	8.4 UJ	0.20 J	0.85 J	20	10
Barium	18 B	25 BJ	17 B	45 B	27 J	42 J	32.3	42	1,000	200
Beryllium	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U	5	5
Cadmium	5.0 U	1.1 B	5.0 U	0.41 B	0.36 J	5.0 U	0.057 J	0.078 J	5	5
Calcium	421,000	374,000 J	396,000 J	332,000	349,000	270,000	308,000	300,000		5,000
Chromium	10 U	10 U	10 U	10 U	0.66 J	10 U	0.067 J	1.2 J	11	10
Cobalt	0.70 B	3.5 B	1.1 B	0.63 B	0.85 J	0.61 J	0.39 J	0.53 J		50
Copper	14 B	25 U	25 U	14 B	5.0 J	6.5 J	1.88	2.1 J	25	25
Iron	100 U	2,810	2,090	100 U	4,630	610 J	652	13	5,000	100
Lead	2.7 J	1.5 B	3.0 UJ	3.0 U	3.0 U	3.0 UJ	0.064 J	1.0 U	4.2	3
Magnesium	99,100	91,200 J	86,000	71,000	79,200	50,200 J	65,500	62,000		5,000
Manganese	86	510	380	370	370 J	99	25	160		15
Mercury	0.20 U	0.20 U	0.14 B	0.20 U	0.08 J	0.10 J	0.20 U	0.20 U	0.2	0.2
Nickel	5.0 B	10 B	34 B	5.2 B	5.3 J	1.6 J	6.7	5.6	96	40
Potassium	12,800	11,400	10,700	11,800	8,350	7,380	6,470	7,800		5,000
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.24 J	0.34 J	8.5	5
Silver	10 U	10 U	10 U	10 U	10 U	10 U	1.0 U	0.20 U	10	10
Sodium	71,000	112,000	52,300	53,700	67,700	26,000	23,900	36,000		5,000
Thallium	10 U	4.7 BJ	10 UJ	10 U	10 U	10 U	1.0 U	0.031 J	40	10
Vanadium	16 J	5.5 B	1.1 B	13 B	1.7 J	3.9 J	0.14 J	0.28 J		50
Zinc	20 U	20 U	20 U	16 B	20 U	20 J	6.8 J	14 J	86	20
Inorganics - Metals and Cyanide (Total)										
Aluminum	47 B	200 U	200 U	600	200 UJ	200 U	3,700	340 J		
Antimony	60 U	10 B	60 U	60 U	60 U	60 U	1.0 U	0.46 U		
Arsenic	4.3 B	12	10 U	10 U	10 U	5.3 J	5.2	1.2		
Barium	16 B	26 BJ	18 B	46 B	28 J	37 J	81	45		
Beryllium	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.22 J	1.0 U		
Cadmium	5.0 U	1.0 B	5.0 U	5.0 U	3.5 J	5.0 U	0.12 J	0.094 J		
Calcium	396,000	349,000 J	409,000 J	321,000	316,000	273,000	367,000	290,000		
Chromium	10 U	10 U	10 U	1.3 B	0.7 J	10 U	6.5	0.97 U		
Cobalt	0.87 B	3 B	1 B	0.7 B	50 U	2.0 J	3.4	0.59 J		
Copper	13 B	25 U	25 U	15 B	5.9 J	6.5 J	9.5	3.9 J		
Cyanide	5.0 U	5.0 U	2.9 B	0.9 B	5.0 U	NS	25 U	5.00 U	10	10
Iron	220	260	210	900	580	100 UJ	12,100	940 J		
Lead	2.4 J	3.0 U	2.5 J	3.0 U	3.0 U	3.0 UJ	5	0.72 J		
Magnesium	89,800	78,900 J	84,400	65,200	65,900	51,100	80,100	60,000		
Manganese	78	120	280	160	110	200 J	325	46		
Mercury	0.20 U	0.20 U	0.12 B	0.20 U	0.20 U	0.20 U	0.09 J	0.20 U		
Nickel	4.2 B	10 B	35 B	5.4 B	4.6 J	3.3 J	12	6.3		
Potassium	11,600	12,300	11,200	11,700	7,970	7,240	7,370	7,800		
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.49 J	0.85 U		
Silver	10 U	10 U	10 U	10 U	10 U	0.69 J	0.018 J	0.20 U		
Sodium	51,700	81,200	37,200	49,900	37,400	25,900	44,600	34,000		
Thallium	10 U	7.2 BJ	10 UJ	10 U	10 U	10 U	0.17 J	0.052 J		
Vanadium	13 J	5.1 B	50 U	16 B	2.3 J	3.9 J	6.6	1.0 J		
Zinc	20 U	4.9 B	20 U	9.3 B	20 U	20 U	38	8.0 J		
Volatile Organic Compounds (VOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Pesticides / PCBs	BRL	NS	BRL	NS	BRL	NS	BRL	NS		

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or UJ
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.
- 17) NS-no sampling required for that event

**Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for GW-63**

Compound	Sampling Results								TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Aug-12	Mar-13	Sep-13		
Inorganics - Metals (Dissolved)¹⁴	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	19 B	200 U	200 U	200 U	200 U	420	5.09 J	50 U		200
Antimony	60 U	8.7 B	4.3 B	4.9 B	60 U	60 U	0.63 J	0.70 J	60	60
Arsenic	6.0 B	7.6 B	3.9 J	10 U	10 U	5.3 J	0.20 J	0.48 J	20	10
Barium	29 B	31 BJ	26 B	47 B	34 J	37 J	23.2	41	1,000	200
Beryllium	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U	5	5
Cadmium	5.0 U	0.59 B	5.0 U	5.0 U	1.6 J	5.0 U	1.00 U	0.20 U	5	5
Calcium	284,000	250,000 J	237,000 J	225,000	207,000	191,000	218,000	180,000		5,000
Chromium	10 U	10 U	10 U	10 U	10 U	10 U	0.18 J	0.72 J	11	10
Cobalt	50 U	5.0 B	50 U	1.7 B	50 U	1.7 J	0.19 J	0.71 J		50
Copper	12 B	25 U	25 U	14 B	5.9 J	3.1 J	0.86 J	1.6	25	25
Iron	10 U	510	100 U	100 U	100 U	810 J	476 J	17	7,000	100
Lead	1.5 J	3.0 U	3.0 UJ	3.0 U	3.0 U	3.0 UJ	0.035 J	1.0 U	4.2	3
Magnesium	71,100	59,600 J	56,800	61,200	49,500	43,600	54,500	41,000		5,000
Manganese	17	1,780	49	1,700	89 J	700	5.11	630		15
Mercury	0.07 B	0.20 U	0.14 B	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2	0.2
Nickel	40 U	6.2 B	19 B	4.2 B	1.3 J	0.17 J	2.16	3.3	96	40
Potassium	4,440 B	5,080	4,100 B	5,900	3,840 J	4,920 J	2,700	4,900		5,000
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.15 J	1.0 U	8.5	5
Silver	10 U	10 U	10 U	10 U	10 U	10 U	1.00 U	0.20 U	10	10
Sodium	31,700	47,300	25,200	47,700	20,400	25,100	14,500 J	25,000		5,000
Thallium	10 U	10 UJ	10 UJ	10 U	10 U	10 U	1.00 U	1.0 U	40	10
Vanadium	16 J	5.1 B	50 U	13 B	3.3 J	3.5 J	0.23 J	0.13 J		50
Zinc	20 U	20 U	20 U	20 U	20 U	20 U	3.26 J	6.1 J	86	20
Inorganics - Metals and Cyanide (Total)										
Aluminum	200 U	150 B	60 B	96 B	200 UJ	200 U	1,250 J	4,100		
Antimony	60 U	7.1 B	4.4 B	60 U	60 U	60 U	0.95 J	0.42 U		
Arsenic	10 U	3.6 B	10 U	10 U	10 U	6.8 J	0.54 J	2.5		
Barium	28 B	32 BJ	28 B	49 B	35 J	39 J	36.4	56		
Beryllium	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.089 JJ	1.0 U		
Cadmium	5.0 U	0.52 B	5.0 U	5.0 U	0.15 J	5.0 U	0.037	0.098 J		
Calcium	250,000	230,000 J	223,000 J	252,000	201,000	210,000	239,000	180,000		
Chromium	10 U	10 U	10 U	10 U	0.4 J	10 U	1.69	5.6		
Cobalt	50 U	4.4 B	50 U	1.1 B	50 U	2.3 J	1.06	3.3		
Copper	11 B	25 U	25 U	14 B	5.8 J	4.2 J	2.67	8.9		
Cyanide	7.6	5.0 U	5.0 U	1.3 B	5.0 U	NS	10 U	1.04 J	10	10
Iron	100 J	480	180	260	100 U	100 UJ	2,930	6,800		
Lead	1.6 B	3.0 U	1.7 J	3.0 U	3.0 U	3.0 UJ	1.94	4.4		
Magnesium	61,600	51,900 J	53,600	58,700	48,400	45,500	58,000	42,000		
Manganese	13 B	1,400	56	1,610	50	950	185	640		
Mercury	0.20 U	0.20 U	0.13 B	0.20 U	0.20 U	0.20 U	0.10 J	0.20 U		
Nickel	40 U	6.6 B	17 B	3.0 B	0.91 J	1.8 J	3.39	8.3		
Potassium	4,170 B	6,070	3,870 B	5,880	3,700 J	5,310	3,210	6,000		
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	0.34 J	1.2 U		
Silver	10 U	10 U	10 U	10 U	10 U	10 U	1.00 U	0.20 U		
Sodium	27,500	42,300	22,900	46,600	18,900	28,900	15,000 J	24,000		
Thallium	10 U	5.3 BJ	10 UJ	10 U	10 U	10 U	1.00 U	0.076 J		
Vanadium	11 J	5.4 B	1.3 B	15 B	3.4 J	3.8 J	1.89	6.5		
Zinc	20 U	20 U	20 U	20 U	20 U	20 U	9.75 J	22		
Volatile Organic Compounds (VOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Pesticides / PCBs	BRL	NS	BRL	NS	BRL	NS	BRL	NS		

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or UJ
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.
- 17) NS-no sampling required for that event

Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for GW-65

Compound	Sampling Results								TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Aug-12	Mar-13	Sep-13		
Inorganics - Metals (Dissolved)¹⁴	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	110 B	6,070	200 U	34 UJ	200 U	3,650	1.69 J	50 U		200
Antimony	60 U	6.2 B	60 U	60 U	60 U	60 U	1.00 U	1.0 U	60	60
Arsenic	10 U	18	10 U	10 U	10 U	5.8 J	1.00 U	0.23 J	10	10
Barium	17 B	41 BEJ	23 B	29 B	30 J	41 J	24.9	29	1,000	200
Beryllium	5.0 UJ	2.2 B	5.0 U	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U	5	5
Cadmium	5.0 U	1.3 B	5.0 U	0.15 B	0.22 J	5.0 U	0.050 J	0.20 U	5	5
Calcium	160,000	240,000 J	113,000 J	144,000	189,000	236,000	134,000	180,000		5,000
Chromium	10 U	42 B	10 U	0.68 B	1.3 J	6.4 J	0.32 J	0.79 J	11	10
Cobalt	50 U	10 B	50 U	50 U	50 U	50 J	0.20 J	0.072 J		50
Copper	13 B	6.6 B	25 U	14 B	7.5 J	8.7 J	1.38	0.94 J	25	25
Iron	110	13,800	100 U	230	100 U	9,100 J	302	61	5,000	100
Lead	2.3 J	7.3	3.0 UJ	3.0 U	3.0 U	3.0 UJ	0.078 J	1.0 U	4.2	3
Magnesium	73,400	143,000 J	40,700	82,200	122,000	152,000	56,800	100,000		5,000
Manganese	4.8 B	380	2.3 B	2.5 B	15 UJ	270	2.31 J	1.0 U		15
Mercury	0.20 U	0.20 U	0.15 B	0.20 U	0.08 J	0.09 J	0.12 J	0.20 U	0.2	0.2
Nickel	1.5 B	21 B	8.2 B	1.6 B	1.3 J	7.4 J	4.58	1.2	96	40
Potassium	2,760 B	5,200	2,090 B	3,880 B	2,910 J	4,770 J	1,950	3,300		5,000
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	1.34	1.0	8.5	5
Silver	10 U	10 U	10 U	10 U	10 U	0.83 J	1.00 U	0.20 U	10	10
Sodium	24,300	30,300	23,000	25,400	27,400	28,800	19,500 J	24,000		5,000
Thallium	10 U	4.8 BJ	10 UJ	10 U	10 U	10 U	0.062 J	1.0 U	40	10
Vanadium	14 J	12 B	1.9 B	13 B	50 U	10 J	0.21 J	1.0 U		50
Zinc	20 U	37	20 U	20 U	20 U	23	5.13 J	5.4 J	86	20
Inorganics - Metals and Cyanide (Total)										
Aluminum	250	6070	100 B	9,600 J	1,420 J	200 U	9,050	8,200		
Antimony	60 U	6.2 B	4.9 B	5.6 B	60 U	60 U	1.00 U	1.0 U		
Arsenic	10 U	18	10 U	4.8 B	10 U	4.3 J	4.37	5.6		
Barium	20 B	41 BEJ	24 B	68 B	39 J	31 J	62.4	59		
Beryllium	5.0 UJ	0.22 B	5.0 U	6.0 B	5.0 U	5.0 U	0.42 J	1.0 U		
Cadmium	5.0 U	1.3 B	5.0 U	5.0 U	0.36 J	5.0 U	0.12 J	0.13 J		
Calcium	168,000	240,000 J	112,000 J	181,000	191,000	241,000	153,000	200,000		
Chromium	10 U	4.2 B	10 U	19	4.4 J	10 U	15.8	17		
Cobalt	50 U	10 B	50 U	11 B	1.5 J	2.2 J	8.06	7.8		
Copper	14 B	6.6 B	25 U	32	9.5 J	4.4 J	13.0	16		
Cyanide	16.8	2.0 B	5.0 U	—	5.0 U	NS	25 U	5.00 U	10	10
Iron	590 J	13,800	230	24,000	3,690	100 UJ	17,900	18,000		
Lead	3.2	7.3	2.1 J	14	3.0 U	3.0 UJ	8.12	9.7		
Magnesium	72,600	143,000 J	40,200	86,800	114,000	162,000	58,800	110,000		
Manganese	20	380	9.7 B	630	110	15 U	385	290		
Mercury	0.20 U	0.20 U	0.14 B	0.17 B	0.20 U	0.20 U	0.10 J	0.20 U		
Nickel	40 U	21 B	7.7 B	24 B	4.2 J	1.4 J	19.3	19		
Potassium	2,820 B	5,200	2,060 B	6,070	3,500 J	4,120 J	4,350	5,800		
Selenium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	1.61	1.1 U		
Silver	10 U	10 U	10 U	10 U	10 U	1.3 J	0.023 J	0.039 J		
Sodium	25,100	30,300	22,000	26,100	27,500	31,000	18,900 J	25,000		
Thallium	10 U	4.8 BJ	10 UJ	10 U	10 U	5.7 J	0.16 J	0.14 J		
Vanadium	13 J	12 B	1.7 B	31 B	50 U	3.4 J	13.4	15		
Zinc	20 U	37	20 U	60	12 J	20 U	146	41		
Volatile Organic Compounds (VOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	NS	BRL	NS	BRL	NS	BRL	NS		
Pesticides / PCBs	BRL	NS	BRL	NS	BRL	NS	BRL	NS		

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
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- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter.
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.
- 17) NS-no sampling required for that event

Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for Creek Surface Water Sample Location SW-50

Compound	Sampling Results							TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Mar-13	Mar-13		
Inorganics - Metals (Dissolved)¹⁴	Quarterly	No Flow	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	200 J	—	200 U	24 BJ	200 U	2.65 J	50 U		200
Antimony	60 U	—	60 U	60 U	60 U	1.00 U	1.0 U	60	60
Arsenic	10 U	—	10 U	10 U	10 U	0.58 J	0.96 J	20	10
Barium	42 B	—	36 B	33 B	46 J	38.5	46	1,000	200
Beryllium	5.0 U	—	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U	5	5
Cadmium	5.0 U	—	5.0 U	5.0 U	5.0 U	1.00 U	0.20 U	5	5
Calcium	92,700	—	79,100 J	51,800	101,000	90,900	85,000		5,000
Chromium	0.49 B	—	10 U	10 U	10 U	0.082 J	0.86 J	11	10
Cobalt	50 U	—	50 U	50 U	50 U	0.13 J	0.069 J		50
Copper	5.4 B	—	6.7 B	7.6 B	6.3 J	1.47	4.0	25	25
Iron	100 U	—	100 U	100 U	100 U	230	10 U	7,000	100
Lead	3.0 U	—	3.0 U	3.0 U	3.0 U	0.037 J	1.0 U	4.2	3
Magnesium	25,100	—	23,100	14,000	28,300	23,800	22,000		5,000
Manganese	2.9 B	—	5.7 B	1.2 B	4.8 J	2.76 J	1.2		15
Mercury	0.20 U	—	0.20 U	0.09 B	0.20 U	0.00020 U	0.20 U	0.2	0.2
Nickel	40 U	—	40 U	40 U	1.2 J	1.85	0.79 J	96	40
Potassium	2,580 J	—	1,930 B	2,630 B	2,020 J	1,690	3,200		5,000
Selenium	5.0 UJ	—	5.0 U	5.0 U	5.0 U	0.49 J	1.0 U	8.5	5
Silver	10 U	—	10 U	10 U	10 U	1.00 U	0.20 U	10	10
Sodium	52,800	—	53,400	36,100	40,100	45,200	44,000		5,000
Thallium	10 U	—	1.9 B	10 U	10 U	1.00 U	1.0 U	40	10
Vanadium	7.4 B	—	5.6 B	7.7 B	5.0 J	0.39 J	0.55 J		50
Zinc	20 U	—	20 U	20 U	20 U	1.76 J	12	86	20
Inorganics - Metals and Cyanide (Total)									
Aluminum	230 J	—	48 B	170 BJ	36 J	68.7	50 U		
Antimony	60 U	—	60 U	60 U	60 U	1.00 U	1.0 U		
Arsenic	3.3 B	—	10 U	10 U	10 U	0.61 J	1.1		
Barium	43 B	—	44 B	360 B	42 J	40.4	45		
Beryllium	5.0 U	—	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U		
Cadmium	5.0 U	—	5.0 U	5.0 U	0.13 J	1.00 U	0.20 U		
Calcium	92,000	—	82,300 J	56,100	91,400	95,000	86,000		
Chromium	0.52 B	—	0.57 B	10 U	10 U	0.33 J	0.22 U		
Cobalt	50 U	—	50 U	50 U	50 U	0.13 J	0.067 J		
Copper	6.2 B	—	10 B	8.4 B	6.2 J	1.32	1.9 U		
Cyanide	4.9 B	—	5.0 U	5.0 U	5.0 U	5.0 U	5.00 U	10	10
Iron	400	—	100 U	140	100 U	318	21		
Lead	3.0 U	—	3.0 U	3.0 U	3.0 U	0.081 J	1.0 U		
Magnesium	24,900	—	23,600	13,800	25,500	25,000	23,000		
Manganese	18	—	9.4 B	20	6.0 J	4.17 J	1.9		
Mercury	0.2 U	—	0.20 U	0.8 B	0.20 U	0.00020 U	0.20 U		
Nickel	40 U	—	40 U	40 U	40 U	0.82 J	0.95 U		
Potassium	2,800 J	—	1,780 B	2,710 B	1,850 J	1,710	3,200		
Selenium	5.0 UJ	—	5.0 U	5.0 U	5.0 U	0.53 J	1.0 U		
Silver	10 U	—	10 U	10 U	10 U	1.00 U	0.20 U		
Sodium	52,300	—	59,900 J	37,600	36,500	47,600	45,000		
Thallium	10 U	—	10 U	10 U	10 U	1.00 U	1.0 U		
Vanadium	8.6 B	—	6.9 B	9.6 B	5.1 J	0.46 J	0.55 J		
Zinc	20 U	—	20 U	20 U	20 U	2.70 J	13		
Volatile Organic Compounds (VOCs)	BRL	—	BRL	NS	BRL	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	—	BRL	NS	BRL	BRL	NS		
Pesticides / PCBs	BRL	—	BRL	NS	BRL	BRL	NS		

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or UJ
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.

Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for Creek Surface Water Sample Location SW-52

Compound	Sampling Results							TRIGGER LEVEL	CRQL
	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Mar-13	Sep-13		
Inorganics - Metals (Dissolved)¹⁴	Semi-Annual	No Flow	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual		
Aluminum	31 J	—	87 B	200 U	200 U	7.26 J	50 U		200
Antimony	60 U	—	60 U	60 U	60 U	1.00 U	1.0 U	60	60
Arsenic	4.5 B	—	3.6 B	10 U	10 U	0.58 J	0.81 J	20	10
Barium	47 B	—	40 B	36 B	40 J	39.0	48	1,000	200
Beryllium	5.0 U	—	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U	5	5
Cadmium	5.0 U	—	5.0 U	5.0 U	5.0 U	1.00 U	0.20 U	5	5
Calcium	101,000	—	85,600	53,100	88,500	90,000	89,000		5,000
Chromium	10 U	—	10 U	10 U	10 U	0.18 J	0.77 J	11	10
Cobalt	50 U	—	50 U	50 U	50 U	0.097 J	0.068 J		50
Copper	8.0 B	—	25 U	8.4 B	5.1 J	1.21	2.6 J	25	25
Iron	100 U	—	100 U	100 U	100 U	237	10 J	7,000	100
Lead	1.6 J	—	3.0 U	3.0 U	3.0 U	0.027 J	1.0 U	4.2	3
Magnesium	27,800	—	24,200	14,500	26,600	23,800	23,000		5,000
Manganese	9.3 B	—	4.1 B	5.9 B	4.3 J	2.32 J	3.3		15
Mercury	0.2 U	—	0.17 B	0.09 B	0.20 U	0.00020 U	0.20 U	0.2	0.2
Nickel	40 U	—	7.2 B	1.1 B	40 U	0.71 J	0.73 J	96	40
Potassium	1,880 J	—	1,820 B	2,750 B	1,820 J	1,600	3,200		5,000
Selenium	5.0 U	—	5.0 UJ	5.0 U	5.0 U	0.57 J	0.91 J	8.5	5
Silver	10 U	—	0.67 B	10 U	10 U	1.00 U	0.20 U	10	10
Sodium	61,500	—	58,500	39,300	38,400	46,100	48,000		5,000
Thallium	10 U	—	10 U	10 U	10 U	1.00 U	1.0 U	40	10
Vanadium	12 B	—	50 U	8.1 B	5.4 J	0.43 J	0.50 J		50
Zinc	20 U	—	20 UJ	20 U	20 U	20.0 U	1.8 J	86	20
Inorganics - Metals and Cyanide (Total)									
Aluminum	110 J	—	200 U	27 BJ	35 J	68.3	50 U		
Antimony	60 U	—	60 U	60 U	60 U	1.00 U	1.0 U		
Arsenic	10 U	—	3.0 B	10 U	10 U	0.49 J	1.0		
Barium	43 B	—	38 B	34 B	40 J	41.3	46		
Beryllium	5.0 U	—	5.0 U	5.0 U	5.0 U	1.00 U	1.0 U		
Cadmium	5.0 U	—	5.0 U	5.0 U	0.16 J	1.00 U	0.20 U		
Calcium	93,800	—	81,200	55,200	87,400	94,800	87,000		
Chromium	10 U	—	10 U	10 U	10 U	0.42 J	0.25 U		
Cobalt	50 U	—	50 U	50 U	50 U	0.17 J	0.073 J		
Copper	7.8 B	—	25 U	6.8 B	6.2 J	1.22	1.4 UJ		
Cyanide	5.0 U	—	5.0 U	0.60 B	0.70 J	3.4 J	1.17 J	10	10
Iron	93.0 B	—	100 U	100 U	100 U	450	35 J		
Lead	3.0 U	—	3.0 U	3.0 U	3.0 U	0.087 J	1.0 U		
Magnesium	25,900	—	22,700	13,300	26,200	24,600	23,000		
Manganese	7.9 B	—	6.3 B	11 B	5.9 J	3.82 J	5.0		
Mercury	0.2 U	—	0.15 B	0.20 U	0.20 U	0.00020 U	0.20 U		
Nickel	40 U	—	5.9 B	40 U	40 U	1.10	1.0 U		
Potassium	1,780 J	—	1,710 B	2,490 B	1,810 J	1,620	3,100		
Selenium	5.0 U	—	5.0 UJ	5.0 U	5.0 U	0.64 J	1.0 U		
Silver	10 U	—	10 U	10 U	10 U	1.00 U	0.20 U		
Sodium	56,600	—	54,500	37,400	38,500	47,700	47,000		
Thallium	10 U	—	10 U	10 U	10 U	0.085 J	1.0 U		
Vanadium	9.2 B	—	50 U	9.9 B	5.6 J	0.28 J	0.55 J		
Zinc	20 U	—	20 UJ	20 U	20 U	1.75 J	2.7 J		
Volatile Organic Compounds (VOCs)	BRL	—	BRL	NS	BRL	BRL	NS		
Semi-Volatile Organic Compounds (SVOCs)	BRL	—	BRL	NS	BRL	BRL	NS		
Pesticides / PCBs	BRL	—	BRL	NS	BRL	BRL	NS		

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or UJ
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQL.
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.

**Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for Outfall Surface Water Run Off Location SWD-1**

	Sampling Results										
Compound	Apr-09	Sep-09	Dec-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-13	Sep-13	TRIGGER LEVEL	CRQL
Inorganics - Metals (Dissolved) ¹⁴		Location Dry	Location Dry	Location Dry	Location Dry	Location Dry	Location Dry	Location Dry	Location Dry		
Aluminum	34.6 B	—	—	—	—	—	—	—	—		200
Antimony	4.8 U	—	—	—	—	—	—	—	—	60	60
Arsenic	3.6 U	—	—	—	—	—	—	—	—	20	10
Barium	47.4 J	—	—	—	—	—	—	—	—	1,000	200
Beryllium	2.3 U	—	—	—	—	—	—	—	—	5	5
Cadmium	0.2 U	—	—	—	—	—	—	—	—	5	5
Calcium	95200	—	—	—	—	—	—	—	—		5,000
Chromium	1.6 B	—	—	—	—	—	—	—	—	11	10
Cobalt	0.5 U	—	—	—	—	—	—	—	—		50
Copper	5.0 B	—	—	—	—	—	—	—	—	25	25
Iron	5.3 U	—	—	—	—	—	—	—	—	7,000	100
Lead	1.6 UJ	—	—	—	—	—	—	—	—	4.2	3
Magnesium	15700	—	—	—	—	—	—	—	—		5,000
Manganese	0.5 U	—	—	—	—	—	—	—	—		15
Mercury	0.1 U	—	—	—	—	—	—	—	—	0.2	0.2
Nickel	0.4 U	—	—	—	—	—	—	—	—	96	40
Potassium	4990 B	—	—	—	—	—	—	—	—		5,000
Selenium	3.3 U	—	—	—	—	—	—	—	—	8.5	5
Silver	0.5 U	—	—	—	—	—	—	—	—	10	10
Sodium	4270 B	—	—	—	—	—	—	—	—		5,000
Thallium	1.5 UJ	—	—	—	—	—	—	—	—	40	10
Vanadium	1.0 U	—	—	—	—	—	—	—	—		50
Zinc	135	—	—	—	—	—	—	—	—	86	20
Inorganics - Metals and Cyanide (Total)											
Aluminum	180 B	—	—	—	—	—	—	—	—		
Antimony	4.8 U	—	—	—	—	—	—	—	—		
Arsenic	3.6 U	—	—	—	—	—	—	—	—		
Barium	49.2 J	—	—	—	—	—	—	—	—		
Beryllium	2.3 U	—	—	—	—	—	—	—	—		
Cadmium	0.2 U	—	—	—	—	—	—	—	—		
Calcium	94200	—	—	—	—	—	—	—	—		
Chromium	1.4 B	—	—	—	—	—	—	—	—		
Cobalt	0.5 U	—	—	—	—	—	—	—	—		
Copper	5.4 B	—	—	—	—	—	—	—	—		
Cyanide	0.2 U	—	—	—	—	—	—	—	—	10	10
Iron	322	—	—	—	—	—	—	—	—		
Lead	1.6 U	—	—	—	—	—	—	—	—		
Magnesium	152000	—	—	—	—	—	—	—	—		
Manganese	6.0 B	—	—	—	—	—	—	—	—		
Mercury	0.1 U	—	—	—	—	—	—	—	—		
Nickel	0.4 U	—	—	—	—	—	—	—	—		
Potassium	5130	—	—	—	—	—	—	—	—		
Selenium	3.3 U	—	—	—	—	—	—	—	—		
Silver	0.5 U	—	—	—	—	—	—	—	—		
Sodium	4290 B	—	—	—	—	—	—	—	—		
Thallium	1.5 UJ	—	—	—	—	—	—	—	—		
Vanadium	1.0 U	—	—	—	—	—	—	—	—		
Zinc	142	—	—	—	—	—	—	—	—		
Volatile Organic Compounds (VOCs)	BRL	—	—	—	—	—	—	—	—		
Semi-Volatile Organic Compounds (SVOCs)	BRL	—	—	—	—	—	—	—	—		
Pesticides / PCBs	BRL	—	—	—	—	—	—	—	—		

Notes:

- 1) All results expressed in micrograms per liter (µg/L).
- 2) Standard Inorganic Data Qualifiers have been used.
- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
- 4) Results shaded yellow, BOLD, and red with a thick outline indicates a detection above the Trigger Level.
- 5) BRL = Below Report Limit; reported data values have a data qualifier of U, J, or UJ
- 6) — = No Sample Available (Well Dry or Insufficient Volume)
- 7) U = Indicates compound was analyzed for but not detected.
- 8) B = (Inorganics) Indicates the result is between the Reporting Detection Limit (RDL) and Method Detection Limit (MDL) but below CRQ
- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
- 11) J = The analyte was positively identified; the associated numerical value is the estimated concentration of analyte in the sample.
- 12) R = The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte can not be verified.
- 13) CRQL = Contract Required Quantitation Limit
- 14) Samples analyzed for Dissolved Inorganics were field filtered using a 0.45 micron, gravity flow filter
- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.

**Skinner Landfill
West Chester, Ohio
Groundwater Analysis Summary Table for Outfall Surface Water Run Off Location SWD-3**

Compound	Sampling Results										TRIGGER LEVEL	CRQL
	Feb-09	Apr-09	Sep-09	Dec-09	Mar-10	Sep-11	Mar-11	Sep-11	Mar-13	Mar-13		
Inorganics - Metals (Dissolved)¹⁴	Location Dry		Location Dry	Location Dry	Location Dry	Location Dry	Location Dry	Location Dry	Location Dry	Location Dry		
Aluminum	—	27 U	—	—	—	—	—	—	—	—		200
Antimony	—	4.8 U	—	—	—	—	—	—	—	—	60	60
Arsenic	—	3.6 U	—	—	—	—	—	—	—	—	20	10
Barium	—	9.5 J	—	—	—	—	—	—	—	—	1,000	200
Beryllium	—	2.3 U	—	—	—	—	—	—	—	—	5	5
Cadmium	—	0.2 U	—	—	—	—	—	—	—	—	5	5
Calcium	—	35800	—	—	—	—	—	—	—	—		5,000
Chromium	—	0.4 U	—	—	—	—	—	—	—	—	11	10
Cobalt	—	0.5 U	—	—	—	—	—	—	—	—		50
Copper	—	2.5 B	—	—	—	—	—	—	—	—	25	25
Iron	—	15.9 B	—	—	—	—	—	—	—	—	7,000	100
Lead	—	1.6 UJ	—	—	—	—	—	—	—	—	4.2	3
Magnesium	—	3970 B	—	—	—	—	—	—	—	—		5,000
Manganese	—	0.5 U	—	—	—	—	—	—	—	—		15
Mercury	—	0.1 U	—	—	—	—	—	—	—	—	0.2	0.2
Nickel	—	0.6 B	—	—	—	—	—	—	—	—	96	40
Potassium	—	3080 B	—	—	—	—	—	—	—	—		5,000
Selenium	—	3.3 U	—	—	—	—	—	—	—	—	8.5	5
Silver	—	0.5 U	—	—	—	—	—	—	—	—	10	10
Sodium	—	949 B	—	—	—	—	—	—	—	—		5,000
Thallium	—	1.5 UJ	—	—	—	—	—	—	—	—	40	10
Vanadium	—	1.0 U	—	—	—	—	—	—	—	—		50
Zinc	—	4.3 U	—	—	—	—	—	—	—	—	86	20
Inorganics - Metals and Cyanide (Total)												
Aluminum	—	162 B	—	—	—	—	—	—	—	—		
Antimony	—	4.8 U	—	—	—	—	—	—	—	—		
Arsenic	—	3.6 U	—	—	—	—	—	—	—	—		
Barium	—	10.8 J	—	—	—	—	—	—	—	—		
Beryllium	—	2.3 U	—	—	—	—	—	—	—	—		
Cadmium	—	0.2 U	—	—	—	—	—	—	—	—		
Calcium	—	37500	—	—	—	—	—	—	—	—		
Chromium	—	0.4 B	—	—	—	—	—	—	—	—		
Cobalt	—	0.5 U	—	—	—	—	—	—	—	—		
Copper	—	6.6 B	—	—	—	—	—	—	—	—		
Cyanide	—	0.2 U	—	—	—	—	—	—	—	—	10	10
Iron	—	304	—	—	—	—	—	—	—	—		
Lead	—	1.6 UJ	—	—	—	—	—	—	—	—		
Magnesium	—	4210 B	—	—	—	—	—	—	—	—		
Manganese	—	6.7 B	—	—	—	—	—	—	—	—		
Mercury	—	0.1 U	—	—	—	—	—	—	—	—		
Nickel	—	0.4 U	—	—	—	—	—	—	—	—		
Potassium	—	3310 B	—	—	—	—	—	—	—	—		
Selenium	—	3.3 U	—	—	—	—	—	—	—	—		
Silver	—	0.5 U	—	—	—	—	—	—	—	—		
Sodium	—	739 B	—	—	—	—	—	—	—	—		
Thallium	—	1.5 UJ	—	—	—	—	—	—	—	—		
Vanadium	—	1.0 U	—	—	—	—	—	—	—	—		
Zinc	—	4.3 U	—	—	—	—	—	—	—	—		
Volatile Organic Compounds (VOCs)	—	BRL	—	—	—	—	—	—	—	—		
Semi-Volatile Organic Compounds (SVOCs)	—	BRL	—	—	—	—	—	—	—	—		
Pesticides / PCBs	—	BRL	—	—	—	—	—	—	—	—		

Notes:

- 1) All results expressed in micrograms per liter µg/L).
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- 3) Results in BOLD indicate a detection above the Contract Required Quantitation Limit (CRQL). An analyte is only bolded if there is a corresponding Trigger Level.
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- 9) B = (Organics) Indicates the analyte was detected in the Method Blank.
- 10) UJ = A value less than the CRQL but greater than the MDL.
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- 15) Detailed summary tables which list report limits and qualified data values for each compound analyzed for by the laboratory as well as qualified laboratory reports are available upon request.
- 16) Sampling frequency reduced to semi-annual as per petition report dated 5/15/08 and EPA approval letter dated 11/24/09.

Attachment 6



**Butler County
Department
of Environmental
Services**

Water • Wastewater •
Solid Waste • Recycling &
Litter Prevention

Commissioners:

Courtney E. Combs
Charles R. Furmon
Michael A. Fox

SPECIAL WASTEWATER DISCHARGE PERMIT

March 17, 2003

The Skinner Landfill Site Work Group
c/o The Dow Chemical Company
Attn: Ben Baker
Remediation Leader
The Dow Chemical Company
4520 E. Ashman
Midland, MI 48674

Re: Skinner Landfill Consent Decree
Permit # 150-01
Permit Fee \$200.00
Effective Date: 3/11/2003
Expiration Date: 9/30/2003

In accordance with the provisions of the agreement reached with Butler County Department of Environmental Services (hereafter "BCDES") in May 1996, this Special Wastewater Discharge Permit is hereby granted to The Skinner Landfill Site Work Group, c/o The Dow Chemical Company Attn: Ben Baker Remediation Leader 4520 E. Ashman Midland, Michigan 48674 (hereafter called "Permittee") on this 17th day of March, 2003. **This permit supersedes the permit originally issued on 03/11/2003, and is retroactive to 03/11/2003.** Permittee is authorized to discharge into the Butler County Sewer System in a manner approved by BCDES under the following conditions of this draft permit:

BCDES has agreed to accept the groundwater discharge from Skinner Landfill Site, only based on the understanding that a Special Discharge Permit would be issued by BCDES with site-specific conditions for connection, monitoring, compliance, and user fees. BCDES proposes to handle this discharge in a unique way because (a) groundwater is a

**Butler County
Administrative Center**

130 High Street

Hamilton, Ohio 45011

(513) 887-3061

Fax (513) 887-3777

www.butlercountyohio.org/des

prohibited discharge according to the BCDES Sewer Use Rules (hereafter "Rules"), (b) the pollutant concentrations and flows may fluctuate and (c) there is no control or pretreatment system in place. This Draft Special Discharge Permit will be subject to a 14 day public notification process prior to consideration by the Butler County Board of Commissioners.

The permit shall contain special conditions of the discharge and shall expire on September 30, 2003. Subsequent permits shall be effective for up to five (5) years. BCDES will use the sampling vault to collect flow proportional samples. Grab samples will be obtained from the next downstream manhole from the sampling vault. The discharge will have a flow monitoring system. BCDES requires all dischargers to execute a flow monitoring agreement and have an effective O&M and calibration program in place so that BCDES is assured reliable flow data.

The monthly usage fee shall be established at 200% of the standard discharge fee/1000 gallons based on the potentially hazardous content of the waste.

Except as provided in this Special Permit, Permittee shall at all times remain subject to all provisions of the Rules. This Permit does not constitute a waiver by BCDES or the Board of County Commissioners of the right to seek any lawful remedy or penalty for any such violation of this Permit or Rules.

Section 9.6A of the Rules provides that any person who violates a permit condition is subject to a civil penalty in an amount not to exceed \$10,000.00 per day of such violation (Section 9.6A). Consequently, should Permittee violate this Special Wastewater Discharge Permit or any Rule, the County, acting through its Director of BCDES, shall have the authority to assess civil penalties of up to \$10,000.00 per violation per day. A violation of this permit is subject to such penalties as may be provided by law.

In addition to civil and criminal liability, the Permittee violating this permit, or causing damage to or otherwise materially inhibiting the Upper Mill Creek wastewater disposal system shall be liable to the BCDES for any expense, loss, or damage caused by such violation or discharge. The BCDES shall bill the Permittee for the costs incurred by the BCDES for any cleaning, repair, or replacement work caused by the violation or discharge. Refusal to pay the assessed costs shall constitute a separate violation of Section 9.6B of the Rules.

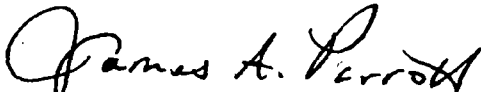
This permit may be modified by agreement of the Permittee and BCDES in accordance with provisions of the Rules or as lawfully required by the United States EPA, Ohio EPA or agencies thereof. Should BCDES and Permittee be unable to come to terms on a modification of this Permit, BCDES may cancel any remaining term of this Permit upon 180 days notice to Permittee.

Failure on the part of the Permittee to fulfill any of the specified conditions may be sufficient cause for immediate revocation of this permit per Section 5.7 of the Rules. This permit is further subject to termination upon thirty (30) days written notice to the Permittee by an authorized representative of BCDES.

It is the responsibility of the Permittee to submit to an Application for Special Wastewater Discharge Permit to BCDES at least ninety (90) days prior to the expiration date of this permit.

This permit may be assigned or transferred to another discharger per provisions of Section 5.6 of the Rules, which require approval of the Director. Such assignment will not be unreasonably withheld. Notice of changes in the point of discharge, in the number or location of extraction points or other changes that may impact the quality or quantity of the effluent must be provided to and acceptable to BCDES per Section 6.5 of the Rules.

Incidental discharges resultant from monitoring, and/or operation and maintenance of the Skinner Landfill Site as of the effective date of the Special Permit Issuance may be accepted upon notification to BCDES per the Rules.


James A. Parrott
Director

SPECIAL PERMIT CONDITIONS

- 1) Except as otherwise provided in this Special Permit, the Permittee shall comply with the Rules and with the U.S. v Skinner Consent Decree. Where inconsistency exists between the Rules and the Consent Decree, an understanding shall be reached between BCDES and Permittee, with court approval where necessary, as to the terms of this Special Permit before discharges are accepted. In the event of a dispute between the Permittee and BCDES after the Permit is granted, the parties agree to attempt to resolve the dispute first through mediation using a mediator acceptable to both parties, and including U.S. EPA in the mediation if requested by the Permittee.
- 2) The Permittee shall allow BCDES personnel, upon presentation of their credentials or other documents as may be required by law, to: enter the Skinner Site premises and have access to, inspect, and copy, at reasonable times, any records located at any facility that are deemed necessary by such personnel to determine Permittee's compliance with this Permit. Permittee shall have the right to claim business confidentiality, trade secret, or privileges recognized by state or federal law on the face of any document sought to be copied by BCDES personnel. Should any other person attempt, under the Ohio Public Records Law, to obtain a copy of material from BCDES which Permittee claims to be protected from disclosure, BCDES shall notify Permittee of the request and allow Permittee to defend its claim of entitlement to exclusion before a judge of the Butler County Court of Common Pleas and no material shall be released except in accordance with the final ruling of an Ohio court upon the question. The Permittee shall allow BCDES personnel to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under this permit; BCDES may sample or monitor, for the purposes of assuring permit compliance, any relevant substances or parameters at any location; and inspect any storage area where pollutants, regulated under this permit, could originate, be stored, or be discharged to the sewer system. Should BCDES be denied access to records it seeks to determine compliance with the terms and conditions of this Permit, then a responsible official of the Permittee shall provide BCDES with an affidavit attesting to Permittee's full and complete compliance with the terms of this Permit under penalty of perjury. Should BCDES be denied access to information it seeks or be denied an acceptable affidavit in lieu of access, BCDES may terminate this Permit upon thirty (30) days prior notice to Permittee.
- 3) BCDES will conduct regular discharge monitoring to determine that constituents in the effluent from Skinner Landfill Site do not exceed local limits or site-specific limits or pose a threat to the wastewater treatment facility, the collection system, County employees or the receiving stream. The inorganic and organic discharges shall not be in excess of local or site specific limits (see attached maximum discharge limit chart). Should sampling indicate violations of these limits, BCDES reserves the right to suspend the discharge and/or require pretreatment prior to accepting additional flow.

- 4) Due to the nature and source of the discharge, BCDES will aggressively monitor local limit parameters until the County feels that it has representative data, at which time a normal schedule may be adopted of monthly local limits monitoring. However, BCDES has the right to sample, with or without notice, as frequently as it determines necessary. The costs associated with sampling will be billed back to the discharger along with any surcharge fees associated with high strength acceptable waste. Any prohibited waste in excess of site specific limits will be subject to the enforcement provisions of the Rules and the Enforcement Response Plan. BCDES understands that seasonal variations may have an impact on water quality parameters, and we want to be assured that the concentrations we are given are within the Publicly Owned Treatment Works (POTW's) ability to safely handle.
- 5) The Permittee shall report to the BCDES any significant changes in location, operational conditions, the quality or quantity of discharges or chemical storage procedures as provided in Section 6.5 of the Rules.
- 6) The Permittee shall notify the BCDES immediately after Permittee's knowledge of the occurrence of an accidental discharge of substances or slug loads or spills that may enter the public sewer. BCDES should be notified by telephone at (513) 887-3686.

The notification shall include location of discharge, date and time thereof, type of waste, including concentration and estimated volume, and corrective actions taken (Section 6.6A). The Permittee's notification of accidental releases in accordance with this section does not relieve it of other reporting requirements that arise under local, State, or Federal laws or the U.S. v Skinner Consent Decree.

Within 5 days of the verbal notification of a discharge, a complete written report must be submitted detailing the quantity and quality of discharge, reason for discharge, and steps taken to prevent further occurrences.

- 7) The Permittee shall keep on file at a location of Permittee's choosing, all records, documents, reports, and correspondence pertaining to effluent monitoring, sampling, and chemical analysis made by or prepared for the Permittee. Said records, reports, documents and correspondence shall be kept on file for a minimum of three (3) years.
- 8) Particular attention should be given to the following: (Note: This section will be utilized to reflect the categorical standards and limits (40 CFR 433) if applicable).
 - (a) From effective date of the permit through September 30, 2003, the Permittee's effluent wastewater discharged to the County Sewer System shall not exceed the following limits based on flow rates provided in the application.

BCDES Special Permit Limits for Skinner Landfill Site

Skinner Landfill Applicable Parameters	Applicable Limit	Allowable Mass Loading Limits ⁽¹⁾ (lbs/day)
TTO	Site Specific	0.53
Arsenic	Local Limit	0.04
Cadmium	Local Limit	0.02
Chromium, Total	Local Limit	0.88
Chromium, Hexavalent	Local Limit	0.13
Copper	Local Limit	0.35
Lead	Local Limit	0.13
Mercury	Local Limit	<0.00009
Molybdenum	Local Limit	0.17
Nickel	Local Limit	0.31
Selenium	Local Limit	0.03
Silver	Local Limit	0.01
Cyanide, Total	Local Limit	0.03
Zinc	Local Limit	0.25
Ammonia	Local Limit	9.17
BOD ₅	Local Limit	366.96
COD	Local Limit	917.40
Oil & Grease	Local Limit	18.35
TSS	Local Limit	229.35

(1) Based upon 11,000 gallons per day discharge rate. The method detection limit (MDL) for mercury is 0.2 ug/l. Ohio EPA defined practical quantification limit (PQL) is 5 times the MDL. To determine compliance with this permit, results below the mdl will be reported as BDL. Results between the MDL and the PQL shall be reported as an analytical result.

- 9) The conditions for renewal of the permit will be that 90 days prior to expiration of the permit, the Permittee shall provide a analysis of the discharge, including operational schedule and anticipated flows, concentrations and an evaluation of the discharge needs for the following 4 years. Additionally, any anticipated significant operational changes shall be reported at any time there is an anticipated significant change during the course of the agreement.
- 10) The Permittee must verbally notify BCDES within 24 hours of becoming aware of any violation found in any self-monitoring. BCDES will require the Permittee to re-sample every 30 days until the Permittee's discharge is in compliance with limits established in this permit. In addition, the Permittee must submit all effluent and monitoring well data collected in accordance with the self-monitoring requirements in 40 CFR Part 136 (as applicable) or the analytical requirements approved by U.S. EPA pursuant to the U.S. v. Skinner Consent Decree, as appropriate. This includes any samples the County may split with the Permittee.
- 11) This permit allows discharge of up to 324,000 gallons per month from the Skinner Landfill Site. Flows greater than 324,000 gallons per month will be assessed peaking surcharges as established in the County's Sewer Rate Resolution 02-1-103, or any subsequent rate schedule. Additionally, due to the nature of this special discharge, any peaking charges are subject to be billed at the 200% standard discharge fee that is established this Special Permit.

Should additional flow need to be discharged from the Skinner Landfill Site, then a letter requesting allocation of additional capacity will need to be sent to the Director. Since groundwater is a prohibited flow except as provided by this Special Permit, then separate approval and agreement will be needed regarding additional ERU allocation.

- 12) BCDES may make an additional 23 ERUs ("Additional ERU") available for Permittee's use with the understanding that the charges for the 23 ERUs will be paid by Permittee at the rate currently in effect at the time of purchase. It is also required that Permittee will surrender to BCDES one or more Additional ERU(s) assigned to Permittee when the groundwater flow from the Skinner Landfill Site decreases such that each Additional ERU/capacity allocation is no longer needed by Permittee. An Additional ERU will be deemed to be no longer needed after a period of two (2) years in which the peak flow in any one month does not exceed 110% of the additional assigned capacity. For example, if the peak monthly flow in 2004 is 450,000 gallons, then each Additional ERU in excess of that needed for the 495,000 gallon capacity allocation would be considered to be an Additional ERU to be surrendered in 2006. For the purposes of determining the surrender of an Additional ERU, a review will be conducted by BCDES and Permittee in January of each year with a surrender of an Additional ERU, if any, to occur in January two (2) years later. Should data during the intervening two (2) years indicate Permittee's need for the Additional ERU, then a letter requesting deferral of the surrender will be submitted to BCDES. Consent for such deferral will not be unreasonably withheld by BCDES. Notwithstanding the ERU review example provided above, at no time shall the Additional ERU review require the Skinner Landfill Site to surrender any of the original 27 ERUs (324,000 gallons per month) authorized under this permit.

Attachment 7

Table 1: Groundwater Elevation Data - 2 nd Half 2013 Skinner Landfill								
Well Type	Location	Well Use	Ground Surface Elevation (ft, msl)	Top of Casing Elevation (ft, msl)	9/26/2013		12/18/13	
					Depth to Water (ft)	GW Elevation (ft, msl)	Depth to Water (ft)	GW Elevation (ft, msl)
Piezometers	P-1	G	685.42	687.65	11.36	676.29	9.66	677.99
	P-2	G	688.54	690.42	12.42	678.00	11.23	679.19
	P-3R	G	691.83	693.69	25.05	668.64	24.97	668.72
	P-4	G	700.32	702.63	6.83	695.80	5.52	697.11
	P-5	G	708.2	710.65	13.56	697.09	12.37	698.28
	P-6	G	707.45	710.59	13.11	697.48	11.61	698.98
	P-7	G	719.08	721.83	Dry	Dry	Dry	Dry
	P-8	G	747.7	749.91	30.30	719.61	29.94	719.97
	P-9R	G	760.12	763.58	17.66	745.92	17.20	746.38
	P-10R	G	761.87	765.84	26.70	739.14	26.49	739.35
	P-11R	G	760.39	763.38	26.96	736.42	28.19	735.19
	P-12R	G	750.11	753.6	36.82	716.78	35.78	717.82
Groundwater Monitoring Wells	GW-06R	G	683.89	685.91	7.63	678.28	7.81	678.10
	GW-07R	S	683.46	683.06	8.55	674.51	4.35	678.71
	GW-24	G	693.32	695.21	18.39	676.82	18.09	677.12
	GW-26	S	696.61	698.28	29.90	668.38	29.12	669.16
	GW-30	G	675.63	677.62	9.82	667.80	9.76	667.86
	GW-58	S	684.03	686.53	13.82	672.71	14.06	672.47
	GW-59	S	684.35	687.38	7.08	680.30	6.20	681.18
	GW-60	G	689.12	692.38	11.88	680.50	5.49	686.89
	GW-61	S	687.38	690.86	13.31	677.55	12.84	678.02
	GW-62A	G	690.19	692.38	14.53	677.85	16.29	676.09
	GW-62B	G	690.57	693.13	12.23	680.90	11.67	681.46
	GW-63	S	698.87	702.5	9.77	692.73	5.86	696.64
	GW-64	G	700.45	703.88	10.10	693.78	10.86	693.02
	GW-65	S	703.83	706.88	13.87	693.01	9.67	697.21
	GW-66	G	686.82	689.41	7.67	681.74	6.48	682.93
Gas Probes	GP-6	G	772.18	774.65	16.53	758.12	13.56	761.09
	GP-7	G	749.83	752.65	5.71	746.94	5.43	747.22

ft, msl - feet above mean sea level

G - Gauging

GW - Groundwater

S - Sampling and Gauging

P-9R, 10R, 11R, and 12R were installed December 2006 to January 2007. Replaced P-9, 10, 11, and 12.

TABLE 2

Groundwater-Waste Monitoring Summary

Skinner Landfill
West Chester, Ohio

2nd Half 2012

Piezometer ID		P-9R	P-10R	P-11R	P-12R	Comments
Grade Elevation (feet)		760.12	761.87	760.39	750.11	
Bottom of Waste Elevation (MSL-feet)		731.92	729.87	728.00	722.61	
Depth to Bottom of Waste (feet)		28.20	32.00	32.39	27.50	
Groundwater Elevation (ft):	22-Jan-07	747.70	739.52	734.04	721.24	BASELINE
	02-Mar-07	748.03	740.60	735.68	718.17	1st Q 2007
	11-Jun-07	746.34	751.34*	737.08	716.70	2nd Q 2007
	04-Sep-07	736.49	737.73	733.49	712.61	3rd Q 2007
	17-Dec-07	745.36	736.92	731.13	714.31	4th Q 2007
	10-Mar-08	747.61	739.04	733.71	717.42	1rst Q 2008
	02-Jun-08	748.06	740.44	739.15	719.10	2nd Q 2008
	16-Sep-08	743.09	738.64	735.98	714.85	3rd Q 2008
	01-Dec-08	736.46	737.52	733.38	712.40	4th Q 2008
	18-Feb-09	745.77	738.00	731.92	715.45	1rst Q 2009
	08-Jun-09	745.64	738.74	733.48	716.75	2nd Q 2009
	21-Sep-09	743.58	738.02	738.88	723.50	3rd Q 2009
	30-Nov-09	744.66	737.89	739.23	720.01	4th Q 2009
	15-Mar-10	747.02	739.12	738.38	720.30	1st Q 2010
	4-Jun-10	746.73	739.61	736.29	717.95	2nd Q 2010
	13-Sep-10	741.91	738.29	734.27	712.16	3rd Q 2010
	17-Dec-10	744.26	737.26	731.33	713.55	4th Q 2010
	28-Mar-11	747.48	739.01	730.65	717.12	1st Q 2011
	14-Jun-11	748.14	741.27	739.53	719.16	2nd Q 2011
	21-Sep-11	745.58	739.58	737.23	716.46	3rd Q 2011
	20-Dec-11	747.95	740.43	737.31	718.32	4th Q 2011
	26-Mar-12	747.86	740.44	738.20	718.55	1rst Q 2012
	14-Jun-12	747.63	740.28	738.48	718.28	2nd Q 2012
	29-Aug-12	744.13	739.04	735.98	716.03	3rd Q 2012
	19-Dec-12	745.32	737.46	732.76	715.38	4th Q 2012

Notes:

Bottom-of-Waste elevations determined during installation of new piezometers completed between 12/6/06 through 12/11/06.

Shaded cells indicate water level elevations below the elevation of waste.

* Groundwater Elevation suspect.

Attachment 8

(Working document for site inspection. Information may be completed by hand and attached to the Five-Year Review report as supporting documentation of site status. "N/A" refers to "not applicable.")

'D-7

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency Ohio EPA
 Contact Chuck McEllan State Prof. Mgr 1/24/14 (937) 285-6056
 Name Title Date Phone no.

Problems; suggestions; Report attached _____

Agency _____
 Contact _____
 Name Title Date Phone no.

Problems; suggestions; Report attached _____

Agency _____
 Contact _____
 Name Title Date Phone no.

Problems; suggestions; Report attached _____

Agency _____
 Contact _____
 Name Title Date Phone no.

Problems; suggestions; Report attached _____

4. **Other interviews (optional)** Report attached.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)				
1.	O&M Documents <input checked="" type="checkbox"/> O&M manual <input checked="" type="checkbox"/> As-built drawings <input checked="" type="checkbox"/> Maintenance logs Remarks _____	Readily available Readily available Readily available	Up to date Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
2.	Site-Specific Health and Safety Plan Contingency plan/emergency response plan Remarks _____	Readily available Readily available	Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
3.	O&M and OSHA Training Records Remarks _____	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
4.	Permits and Service Agreements Air discharge permit Effluent discharge Waste disposal, POTW Other permits _____ Remarks _____	Readily available Readily available Readily available Readily available	Up to date Up to date Up to date Up to date	<input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
5.	Gas Generation Records Remarks _____	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
6.	Settlement Monument Records Remarks _____	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
7.	Groundwater Monitoring Records Remarks _____	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
8.	Leachate Extraction Records Remarks _____	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
9.	Discharge Compliance Records Air <input checked="" type="checkbox"/> Water (effluent) <input checked="" type="checkbox"/> Remarks _____	Readily available Readily available	Up to date Up to date	N/A <input checked="" type="checkbox"/> N/A
10.	Daily Access/Security Logs Remarks _____	Readily available	Up to date	<input checked="" type="checkbox"/> N/A

IV. O&M COSTS																																											
1.	O&M Organization State in-house _____ PRP in-house _____ Federal Facility in-house _____ Other _____	Contractor for State _____ <input checked="" type="checkbox"/> Contractor for PRP _____ Contractor for Federal Facility _____																																									
2.	O&M Cost Records Readily available _____ Up to date _____ Funding mechanism/agreement in place _____ Original O&M cost estimate _____ Breakdown attached _____ Total annual cost by year for review period if available <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">From _____</td> <td style="width: 15%;">To _____</td> <td style="width: 15%;"></td> <td style="width: 15%;">Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> <tr> <td>From _____</td> <td>To _____</td> <td></td> <td>Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> <tr> <td>From _____</td> <td>To _____</td> <td></td> <td>Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> <tr> <td>From _____</td> <td>To _____</td> <td></td> <td>Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> <tr> <td>From _____</td> <td>To _____</td> <td></td> <td>Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> </table>			From _____	To _____		Breakdown attached	Date	Date	Total cost		From _____	To _____		Breakdown attached	Date	Date	Total cost		From _____	To _____		Breakdown attached	Date	Date	Total cost		From _____	To _____		Breakdown attached	Date	Date	Total cost		From _____	To _____		Breakdown attached	Date	Date	Total cost	
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3.	Unanticipated or Unusually High O&M Costs During Review Period Describe costs and reasons: _____ _____ _____ _____ _____																																										
V. ACCESS AND INSTITUTIONAL CONTROLS Applicable N/A																																											
A. Fencing																																											
1.	Fencing damaged Remarks _____	Location shown on site map _____ <i>Fence + gates in good condition</i>	Gates secured _____ N/A																																								
B. Other Access Restrictions																																											
1.	Signs and other security measures Remarks _____	Location shown on site map _____ <i>Signs in place</i>	N/A																																								

C. Institutional Controls (ICs)			
1.	Implementation and enforcement		
	Site conditions imply ICs not properly implemented	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
	Site conditions imply ICs not being fully enforced	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
	Type of monitoring (e.g. <u>self-reporting</u> drive by) _____		
	Frequency <u>Semi-annual</u>		
	Responsible party/agency <u>PRP</u>		
	Contact <u>Mike Watkins</u>	<u>proj. Mgr.</u>	
	Name	Title	Phone no.
	Reporting is up-to-date	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A
	Reports are verified by the lead agency	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A
	Specific requirements in deed or decision documents have been met	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A
	Violations have been reported	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	N/A
	Other problems or suggestions: Report attached		

2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	ICs are inadequate N/A
	Remarks _____		

D. General			
1.	Vandalism/trespassing	Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
	Remarks _____		

2.	Land use changes on site	<input checked="" type="checkbox"/> N/A	
	Remarks _____		

3.	Land use changes off site	<input checked="" type="checkbox"/> N/A	
	Remarks _____		

VI. GENERAL SITE CONDITIONS			
A. Roads	<input checked="" type="checkbox"/> Applicable	N/A	
1.	Roads damaged	Location shown on site map	<input checked="" type="checkbox"/> Roads adequate N/A
	Remarks _____		

B. Other Site Conditions			
Remarks _____			

VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable N/A			
A. Landfill Surface			
1.	Settlement (Low spots) Areal extent _____ Remarks <u>Site covered with 4 to 6 inches of snow</u> <u>difficult to see cover</u>	Location shown on site map _____ Depth _____	Settlement not evident
2.	Cracks Lengths _____ Remarks <u>See remark above</u>	Location shown on site map _____ Widths _____ Depths _____	<input checked="" type="checkbox"/> Cracking not evident
3.	Erosion Areal extent _____ Remarks <u>See remark above</u>	Location shown on site map _____ Depth _____	<input checked="" type="checkbox"/> Erosion not evident
4.	Holes Areal extent _____ Remarks <u>See remark above</u>	Location shown on site map _____ Depth _____	<input checked="" type="checkbox"/> Holes not evident
5.	Vegetative Cover Trees/Shrubs (indicate size and locations on a diagram) Remarks <u>See remark above</u>	Grass _____ Cover properly established _____	<input checked="" type="checkbox"/> No signs of stress
6.	Alternative Cover (armored rock, concrete, etc.) Remarks <u>See remark above</u>	N/A	
7.	Bulges Areal extent _____ Remarks <u>See remark above</u>	Location shown on site map _____ Height _____	Bulges not evident

8.	Wet Areas/Water Damage	<input checked="" type="checkbox"/> Wet areas/water damage not evident
	Wet areas	Location shown on site map Areal extent _____
	Ponding	Location shown on site map Areal extent _____
	Seeps	Location shown on site map Areal extent _____
	Soft subgrade	Location shown on site map Areal extent _____
	Remarks	<i>See remark above</i>
9.	Slope Instability	Slides Location shown on site map <input checked="" type="checkbox"/> No evidence of slope instability
	Areal extent _____	
	Remarks _____	
B. Benches <input checked="" type="checkbox"/> Applicable N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	Flows Bypass Bench	Location shown on site map <input checked="" type="checkbox"/> N/A or okay
	Remarks _____	
2.	Bench Breached	Location shown on site map <input checked="" type="checkbox"/> N/A or okay
	Remarks _____	
3.	Bench Overtopped	Location shown on site map <input checked="" type="checkbox"/> N/A or okay
	Remarks _____	
C. Letdown Channels <input checked="" type="checkbox"/> Applicable N/A (Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)		
1.	Settlement	Location shown on site map <input checked="" type="checkbox"/> No evidence of settlement
	Areal extent _____ Depth _____	
	Remarks _____	
2.	Material Degradation	Location shown on site map <input checked="" type="checkbox"/> No evidence of degradation
	Material type _____ Areal extent _____	
	Remarks _____	
3.	Erosion	Location shown on site map <input checked="" type="checkbox"/> No evidence of erosion
	Areal extent _____ Depth _____	
	Remarks _____	

4.	Undercutting	Location shown on site map	<input checked="" type="checkbox"/> No evidence of undercutting
	Areal extent _____	Depth _____	
	Remarks _____		
5.	Obstructions	Type _____	<input checked="" type="checkbox"/> No obstructions
	Location shown on site map	Areal extent _____	
	Size _____		
	Remarks _____		
6.	Excessive Vegetative Growth	Type _____	
	<input checked="" type="checkbox"/> No evidence of excessive growth		
	Vegetation in channels does not obstruct flow		
	Location shown on site map	Areal extent _____	
	Remarks _____		
D. Cover Penetrations <input checked="" type="checkbox"/> Applicable N/A			
1.	Gas Vents	Active <input checked="" type="checkbox"/> Passive	
	Properly secured/locked	Functioning	<input checked="" type="checkbox"/> Good condition
	Evidence of leakage at penetration	Needs Maintenance	
	N/A		
	Remarks _____		
2.	Gas Monitoring Probes		
	Properly secured/locked	Functioning	<input checked="" type="checkbox"/> Good condition
	Evidence of leakage at penetration	Needs Maintenance	<input checked="" type="checkbox"/> N/A
	Remarks _____		
3.	Monitoring Wells (within surface area of landfill)		
	<input checked="" type="checkbox"/> Properly secured/locked	Functioning	<input checked="" type="checkbox"/> Good condition
	Evidence of leakage at penetration	Needs Maintenance	N/A
	Remarks _____		
4.	Leachate Extraction Wells		
	Properly secured/locked	Functioning	<input checked="" type="checkbox"/> Good condition
	Evidence of leakage at penetration	Needs Maintenance	<input checked="" type="checkbox"/> N/A
	Remarks _____		
5.	Settlement Monuments	Located	<input checked="" type="checkbox"/> Routinely surveyed
	Remarks _____		

E. Gas Collection and Treatment		Applicable	<input checked="" type="checkbox"/> N/A
1.	Gas Treatment Facilities Flaring Thermal destruction Collection for reuse Good condition Needs Maintenance Remarks _____		
2.	Gas Collection Wells, Manifolds and Piping Good condition Needs Maintenance Remarks _____		
3.	Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings) Good condition Needs Maintenance N/A Remarks _____		
F. Cover Drainage Layer		Applicable	N/A
1.	Outlet Pipes Inspected Remarks _____ Functioning N/A		
2.	Outlet Rock Inspected Remarks _____ Functioning N/A		
G. Detention/Sedimentation Ponds		Applicable	<input checked="" type="checkbox"/> N/A
1.	Siltation Areal extent _____ Depth _____ Siltation not evident Remarks _____ <input checked="" type="checkbox"/> N/A		
2.	Erosion Areal extent _____ Depth _____ Erosion not evident Remarks _____		
3.	Outlet Works Functioning <input checked="" type="checkbox"/> N/A Remarks _____		
4.	Dam Functioning <input checked="" type="checkbox"/> N/A Remarks _____		

H. Retaining Walls			<input checked="" type="checkbox"/> Applicable	N/A
1.	Deformations	Location shown on site map	<input checked="" type="checkbox"/> Deformation not evident	
	Horizontal displacement _____	Vertical displacement _____		
	Rotational displacement _____			
	Remarks _____			
2.	Degradation	Location shown on site map	<input checked="" type="checkbox"/> Degradation not evident	
	Remarks _____			
I. Perimeter Ditches/Off-Site Discharge			<input checked="" type="checkbox"/> Applicable	N/A
1.	Siltation	Location shown on site map	<input checked="" type="checkbox"/> Siltation not evident	
	Areal extent _____	Depth _____		
	Remarks _____			
2.	Vegetative Growth	Location shown on site map	N/A	
	<input checked="" type="checkbox"/> Vegetation does not impede flow			
	Areal extent _____	Type _____		
	Remarks _____			
3.	Erosion	Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident	
	Areal extent _____	Depth _____		
	Remarks _____			
4.	Discharge Structure	Functioning	<input checked="" type="checkbox"/> N/A	
	Remarks _____			
VIII. VERTICAL BARRIER WALLS			<input checked="" type="checkbox"/> Applicable	N/A
1.	Settlement	Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident	
	Areal extent _____	Depth _____		
	Remarks _____			
2.	Performance Monitoring	Type of monitoring	<u>Inspections</u>	
	Performance not monitored			
	Frequency <u>Semi-annual</u>	Evidence of breaching		
	Head differential _____			
	Remarks _____			

IX. GROUNDWATER/SURFACE WATER REMEDIES		<input checked="" type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
A. Groundwater Extraction Wells, Pumps, and Pipelines		<input checked="" type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Pumps, Wellhead Plumbing, and Electrical <input checked="" type="checkbox"/> Good condition <input checked="" type="checkbox"/> All required wells properly operating Needs Maintenance N/A Remarks _____ _____ _____		
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input checked="" type="checkbox"/> Good condition Needs Maintenance Remarks _____ _____ _____		
3.	Spare Parts and Equipment Readily available <input checked="" type="checkbox"/> Good condition Requires upgrade Needs to be provided Remarks _____ _____ _____		
B. Surface Water Collection Structures, Pumps, and Pipelines		Applicable	<input checked="" type="checkbox"/> N/A
1.	Collection Structures, Pumps, and Electrical Good condition Needs Maintenance Remarks _____ _____ _____		
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Needs Maintenance Remarks _____ _____ _____		
3.	Spare Parts and Equipment Readily available Good condition Requires upgrade Needs to be provided Remarks _____ _____ _____		

C. Treatment System			
		<input checked="" type="checkbox"/> Applicable	N/A
1.	Treatment Train (Check components that apply) Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbents Filters _____ Additive (e.g., chelation agent, flocculent) _____ Others _____ <input checked="" type="checkbox"/> Good condition Needs Maintenance <input checked="" type="checkbox"/> Sampling ports properly marked and functional <input checked="" type="checkbox"/> Sampling/maintenance log displayed and up to date <input checked="" type="checkbox"/> Equipment properly identified <input checked="" type="checkbox"/> Quantity of groundwater treated annually _____ Quantity of surface water treated annually _____ Remarks _____		
2.	Electrical Enclosures and Panels (properly rated and functional) N/A <input checked="" type="checkbox"/> Good condition Needs Maintenance Remarks _____		
3.	Tanks, Vaults, Storage Vessels N/A <input checked="" type="checkbox"/> Good condition Proper secondary containment Needs Maintenance Remarks _____		
4.	Discharge Structure and Appurtenances N/A <input checked="" type="checkbox"/> Good condition Needs Maintenance Remarks _____		
5.	Treatment Building(s) <input checked="" type="checkbox"/> N/A Good condition (esp. roof and doorways) Needs repair Chemicals and equipment properly stored Remarks _____		
6.	Monitoring Wells (pump and treatment remedy) <input checked="" type="checkbox"/> Properly secured/locked Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition All required wells located Needs Maintenance N/A Remarks _____		
D. Monitoring Data			
1.	Monitoring Data <input checked="" type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality		
2.	Monitoring data suggests: <input checked="" type="checkbox"/> Groundwater plume is effectively contained <input checked="" type="checkbox"/> Contaminant concentrations are declining		

D. Monitored Natural Attenuation**1. Monitoring Wells (natural attenuation remedy)**

Properly secured/locked Functioning Routinely sampled
 All required wells located Needs Maintenance

Good condition
~~N/A~~

Remarks _____

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS**A. Implementation of the Remedy**

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The remedy is functioning as intended.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

None

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.